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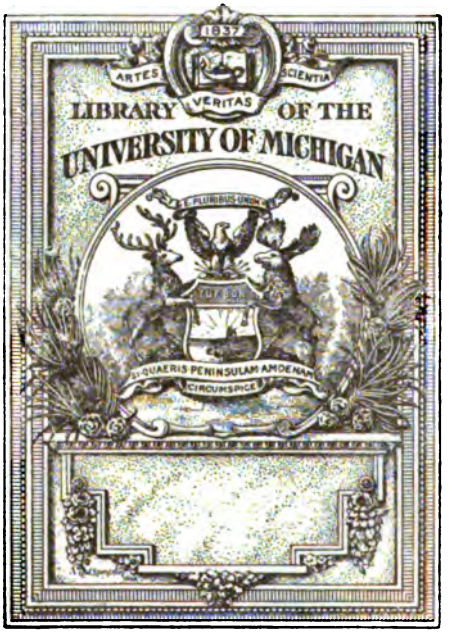
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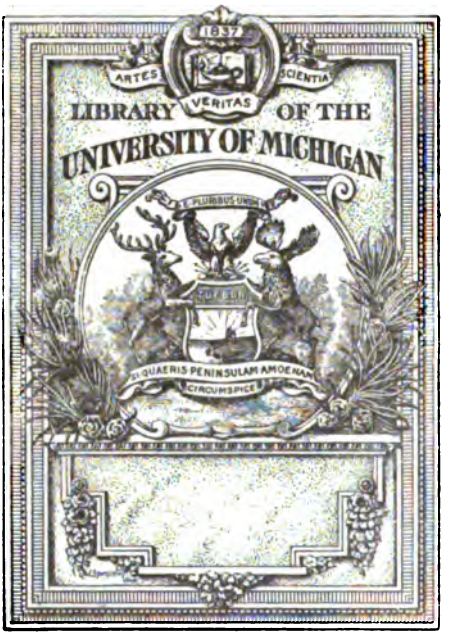
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UNIV. OF MICHIGAN,
OCT 1 1912

BULLETIN OF THE STATE UNIVERSITY OF IOWA

NEW SERIES NO. 88 MAY, 1904

CALENDAR

OF THE

STATE UNIVERSITY OF IOWA

IOWA CITY

1903-1904

PUBLISHED BY THE UNIVERSITY
IOWA CITY, IOWA
1904

THE UNIVERSITY BULLETINS PUBLISHED BY THE UNIVERSITY ARE ISSUED EVERY SIX WEEKS, DURING THE ACADEMIC YEAR, AT LEAST SIX NUMBERS EVERY CALENDAR YEAR. ENTERED AT THE POST OFFICE AS SECOND CLASS MAIL MATTER

CALENDAR FOR 1904-1905

1904

JULY

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1905

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THE UNIVERSITY CALENDAR

1904–1905

1904

June 10, Friday	Anniversary exercises of the forensic societies, 8 P. M.
June 12, Sunday	Baccalaureate address, 4 P. M.
June 13, Monday	Class Day exercises. Battalion drill and dress parade. Review by the Governor of Iowa, 4 P. M.
June 14, Tuesday	Alumni Day. Phi Beta Kappa address, 10 A. M. Alumni business meeting, 2 P. M. Alumni dinner, 6 P. M.
June 15, Wednesday	Commencement, all colleges, 10 A. M. President's reception, 4 P. M.
June 16, 17, Thursday, Friday	Examinations for admission to all colleges.
June 18, Saturday	Registration for the Summer Session, 9 A. M.
June 20, Monday	Instruction begins in the Summer Session, 7 A. M.
July 28, 29, Thursday, Friday	Examinations by the State Board of Educational Examiners.
July 30, Saturday	Summer Session ends.

SUMMER VACATION

Sept. 19, Monday	Examination for admission. Registration in all colleges at 2 P. M. Students may register by mail or in person at any time during the summer vacation.
Sept. 22, Thursday	Instruction begins in all colleges, 8 A. M. University Convocation; address by the President, 4 P. M.
Nov. 23, Wednesday	First quarter ends, 10 P. M.
Nov. 24, Thursday	Thanksgiving Day, all exercises suspended.
Nov. 25, Friday,	Second quarter begins, 8 A. M.
Dec. 22, Thursday	Holiday recess begins, 10 P. M.

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Jan. 4, Wednesday	Work resumed in all colleges, 8 A. M.
Feb. 11, Saturday	First semester ends, 10 P. M.
Feb. 13, Monday	Second semester begins, 8 A. M.
Feb. 21, Tuesday	Annual lecture of the Sigma Xi, 8 P. M.
Feb. 22, Wednesday	Holiday. University Convocation in celebration of Washington's Birthday, 10:30 A. M.
April 12, Wednesday	Third quarter ends, 10 P. M. All exercises suspended until the following Tuesday.
April 18, Tuesday	Fourth quarter begins, 8 A. M.
May 30, Tuesday	Memorial Day; all exercises suspended.
June 9, Friday	Anniversary exercises of the forensic societies, 8 P. M.
June 11, Sunday	Baccalaureate address, 4 P. M.
June 12, Monday	Class Day exercises. Battalion drill and dress parade. Review by the Governor of Iowa, 4 P. M.
June 13, Tuesday	Alumni Day, Phi Beta Kappa address, 10 A M. Alumni business meeting, 2 P. M. Alumni dinner, 6 P. M.
June 14, Wednesday	Commencement, all colleges, 10 A. M. President's reception, 4 P. M.
June 15, 16, Thursday, Friday	Examination for admission to all colleges.
June 17, Saturday	Registration for the Summer Session begins, 9 A. M.
June 19, Monday	Instruction begins in the Summer Session, 7 A. M.
July 27, 28, Thursday, Friday	Examinations by the State Board of Educational Examiners.
July 29, Saturday	Summer Session ends.

SUMMER VACATION

Sept. 18, Monday	Examinations for admission. Registration in all colleges begins, 2 P. M.
Sept. 21, Thursday	Instruction begins in all colleges, 8 A. M.

THE BOARD OF REGENTS

MEMBERS EX-OFFICIIS

His Excellency, ALBERT B. CUMMINS, *Governor of Iowa*

JOHN F. RIGGS,
Superintendent of Public Instruction

TERMS EXPIRE 1904

NINTH DISTRICT—*SHIRLEY GILLILLAND, *Glenwood*
EIGHTH DISTRICT—HIRAM K. EVANS, *Corydon*
FIFTH DISTRICT—THOMAS B. HANLEY, *Tipton*

TERMS EXPIRE 1906

SIXTH DISTRICT—WILLIAM D. TISDALE, *Ottumwa*
FIRST DISTRICT—W. I. BABB, *Mt. Pleasant*
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*Resigned January 11, 1904.

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By authority of the Board of Regents separate announcements of the following colleges and schools will be sent gratuitously, postage paid, to all persons who apply for them: Graduate College; College of Liberal Arts; of Law; of Medicine; of Homeopathic Medicine; of Dentistry; of Pharmacy; the School of Political and Social Science; School of Applied Science; the Summer Session. In calling for announcements please state the college or school concerning which information is desired.

Address

THE PRESIDENT
The State University of Iowa,
Iowa City, Iowa.

5-'06-1200

THE

STATE UNIVERSITY OF IOWA

IOWA CITY

CALENDAR

1903-1904

PUBLISHED BY THE UNIVERSITY
IOWA CITY, IOWA
1904

PUBLIC LECTURES

1903.

Feb. 21, Auspices of Sigma Xi, "Color Photography," Professor R. W. Wood, Johns Hopkins University.

Apr. 10, 11, Department of Philosophy, "Variation Tradition" and "The Psychology of Play," Professor Arthur Allin.

June 24, Department of English, "A Canterbury Pilgrimage," Dr. James G. Gilchrist.

June 26, Department of Latin, "The Topography and Remains of Ancient Rome," Professor Franklin H. Potter.

June 27, Department of Sociology, "Contemporary Socialism," Isaac A. Loos.

June 30, Department of English, "Westminster Abbey," Dr. James G. Gilchrist.

July 1, Department of Archeology, "The Acropolis at Athens," Professor Arthur Fairbanks.

July 3, Department of Latin, "The Palatine Hill," Professor Franklin H. Potter.

July 7, Department of English, "The Tower of London," D. James G. Gilchrist.

July 8, Department of Zoology, "The Hawaiian Islands," Professor Charles Cleveland Nutting.

July 10, Department of Latin, "The Topography and Remains of Pompeii," Professor Franklin H. Potter.

July 15, Department of Botany, "Man in the Tropics," Professor Bohumil Shimek.

July 16, Department of English, "The Alhambra," Professor Huber Gray Buehler.

July 17, Department of Latin, "The Wall Paintings of Pompeii," Professor Franklin H. Potter.

July 22, Department of Political Science, "Publicity, the Cure for Trusts," Dr. Frank E. Horack.

July 24, Department of Mathematics, "The Language of Light," Professor Lænas Gifford Weld.

July 29, Department of English, "Florence, the City of Romola," Professor Huber Gray Buehler.

Sept. 24, Convocation, Address by the Honorable Shirley Gillilland, B. Ph, LL. B., "The Life That Lives."

Oct. 7, Auspices of Sigma Xi, "Science in its Relation to the Ethical Sentiments," Professor L. W. Andrews.

Oct. 12 to 16, College of Law, "The Expansion of the Common Law."

1. "The Foundations of Justice."
2. "The Scales of Justice."
3. "The Sword of Justice."
4. "The Law of Reason."
   (a). The Law of Nature and of Nations.
   (b). Natural Justice in the Common Law.

Sir Frederick Pollock, Bart.

Nov. 4, Department of Philosophy, "The Subconscious;" and "The Psychology of Speech:" Professor Joseph Jastrow of Wisconsin University.

1904

Feb. 8, Archæological Institute, "Recent Excavations in the East," Professor George F. Moore, Harvard University.

Feb. 13, Archeological Institute "Knife, Fire, and Wheel in Early Art," Professor W. J. McGee, Department of Anthropology, Louisiana Purchase Exposition.

Feb. 23, Department of Archeology, "Seven Churches of Asia Minor," Rufus B. Richardson.

April 6, Department of Archeology, "Archæological Explorations and Excavations in Greek Lands," Professor Thomas D. Seymour, Yale University.

Oct. to May, Department of English; a course of illustrated lectures on Literary Landmarks of Mediæval England, by Dr. Gilchrist.

Oct. to June, Department of Botany, Illustrated lectures weekly on topics connected with plant structure and plant life.

Sept. to Jan., Assembly. Addresses by President George E. MacLean, Sir Frederick Pollock, Professor Joseph Jastrow, Judge L. G. Kinne, Hon. John Cownie, Professor T. Gregory Foster, Dean Charles Noble Gregory, The Right Reverend Theodore N. Morrison, Professor Samuel Calvin, The Reverend W. D. Williams, and Miss Ben Oliel.

ORGANIZATION OF THE UNIVERSITY

The State University of Iowa is an integral part of the public school system of the state. As required by law, the work of the University is based upon the preparation afforded by the duly accredited high schools of the state, whose graduates are admitted to the undergraduate and professional courses upon presentation of the proper certificates. A sense of this vital connection with the public schools determines, in a large measure, the requirements for admission to the University, its spirit, and its course of study.

The control of the University is intrusted to a Board of Regents, consisting of the Governor of Iowa and the Superintendent of Public Instruction *ex-officiis*, and of one member elected by the General Assembly from each of the eleven congressional districts.

The University is administered through the following organizations:

THE COLLEGE OF LIBERAL ARTS, including the Summer Session;
THE COLLEGE OF LAW;
THE COLLEGE OF MEDICINE;
THE COLLEGE OF HOMEOPATHIC MEDICINE;
THE COLLEGE OF DENTISTRY;
THE COLLEGE OF PHARMACY;
THE GRADUATE COLLEGE;
THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE AND OF COMMERCE;
THE SCHOOL OF APPLIED SCIENCE;
THE HOSPITALS;
THE NURSES' TRAINING SCHOOLS.

THE MEMBERS OF THE FACULTIES

AND OTHER OFFICERS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.* 608 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth, LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
82 Bloomington St. (108 Liberal Arts)

PHILO JUDSON FARNSWORTH, B. A., 1854; M. A., 1857; M. D., 1858, Vermont; M. D., 1860, Coll. Phys. and Sur., New York.

Professor Emeritus of Materia Medica and Diseases of Children in the College of Medicine, 1868. Clinton, Iowa

JOHN CLINTON SHRADER, M. D., 1865, Coll. Phys. and Sur., Keokuk; M. D., Long Island Coll. Hospital, Brooklyn, N. Y.; M. A., 1877; LL. D., 1894, Western College.

Professor Emeritus of Obstetrics and Diseases of Women, 1869.
811 College St.

SAMUEL CALVIN, M. A., 1874, Cornell College; F. G. S. A., PH. D., 1888, Lenox.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A.. 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
723 Washington St. (206 Science Hall)

JAMES GRANT GILCHRIST, M. D., 1863; M. A., 1890, Pennsylvania.

Professor of Surgery and Surgical Gynecology, College of Homeopathic Medicine, 1882.
615 N. Dubuque St. (Homeopathic Hospital)

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank

EMIL LOUIS BOERNER, PH. G., 1876, Philadelphia Coll. of Phar.; Phar. D., 1896, Iowa.

Professor Emeritus of Practical Pharmacy, 1885.
325 N. Dubuque St.

LAUNCELOT WINCHESTER ANDREWS, B. PH., 1875, Yale; M. A., PH. D., 1882, Goettingen.

Professor and Head of the Department of Chemistry, 1885.
251 S. Johnson St. (Chemical Laboratory)

CHARLES HERBERT COGSWELL, M. D., 1866, Hahnemann College, Chicago.

Professor Emeritus of Obstetrics and Diseases of Women in the College of Homeopathic Medicine, 1885.
Cedar Rapids, Ia. (Hom. Med. Hospital)

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D., 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and Head of the Department of Philosophy, 1887.
704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor and Head of the Department of Physics, and Secretary of the Faculty of the College of Liberal Arts, 1893.
707 N. Dubuque St. (Hall of Physics

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, and Director of the School of Applied Science, 1886.
612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1896.
922 E. Washington St. (304 Science Hall)

JAMES RENWICK GUTHRIE, B. S., 1878; M. A., 1881, Lenox; M. D., 1884, Iowa.

Professor of Obstetrics and Gynecology, and Dean of the College of Medicine, 1889. Dubuque, Ia. (University Hospital)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.
11 E. Bloomington St. (205 Liberal Arts)

SAMUEL HAYES, B. S., 1869; M. S. 1876, Michigan; LL. B., 1891, Iowa.

Professor of Law, 1891. 616 N. Dubuque St. (201 Old Capitol)

*ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A.. 1901, Amherst; M. D., 1895, Iowa.

Professor of Chemistry and Toxicology, and Secretary of the Faculty of the College of Medicine, 1888.
1011 Woodlawn. (Chemical Laboratory)

GEORGE ROYAL, M. D., 1882, N. Y. Hom. Med. Coll.

Professor of Materia Medica and Therapeutics, and Dean of the College of Homeopathic Medicine, 1892.
Des Moines, Iowa. (Hom. Hospital)

JAMES WILLIAM DALBEY, B. S., 1885; M. D., 1888, Illinois Coll.

Professor of Ophthalmology in the College of Medicine, 1889.
Cedar Rapids, Ia. (University Hospital)

CHARLES SUMNER CHASE, B. A., 1871, Cedar Valley Sem.; B. S., 1874, I. S. C., Ames; M. D., 1882, Rush Medical Coll.; M. A., 1895, Iowa.

Professor of Materia Medica and Therapeutics in the College of Medicine, 1892. Waterloo, Ia. (University Hospital)

WALTER LAWRENCE BIERRING, M. D., 1892, Iowa.

Professor of Theory and Practice and Clinical Medicine, 1893.
Cor. Governor St. and Iowa Ave. (1 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Head of the Department of History, and Professor of American History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

FRANK THOMAS BREENE, D. D. S., 1883; M. D., 1893, Iowa.

Professor of Operative and Clinical Dentistry, and Therapeutics, 1888. 419 N. Clinton St. (Dental Hall)

WILLIAM SUITS HOSFORD, B. A., 1883; D. D. S., 1892, Iowa

Professor of Dental Prosthesis, and Dean of the College of Dentistry, 1893. 505 College St. (1 Dental Hall)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1893. 309 Church St. (120 Liberal Arts.

ALFRED VARLEY SIMS, C. E., 1888, Pennsylvania.

Professor and Head of the Department of Civil Engineering, 1895.
Bloom Terrace. (Engineering Hall)

†JOHN WALTER HARRIMAN, M. D., 1891, Iowa.

Professor of Anatomy, 1896. (Medical Hall)

*Absent on leave, 1903-1904.

†Died January 25, 1904.

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Morphology and Physiology, 1892. 422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895. 219 N. Clinton St. (202 Liberal Arts)

WILLIAM ROBERT WHITEIS, B. S., 1892; M. D., 1895; M. S., 1895, Iowa.

Professor of Histology and Embryology in the College of Medicine, 1898. 220 S. Johnson St. (Histological Laboratory—16 Liberal Arts)

LEE WALLACE DEAN, B. S., 1894, M. S., 1896; M. D., 1896, Iowa.

Professor of Otology and Rhino-Laryngology, and Assistant in the Department of Ophthalmology, 1898. 12½ S. Clinton St. (University Hospital)

ELMER ALMY WILCOX, B. A., 1891, Brown.

Professor of Law, Secretary of the University Senate, and Secretary of the Law Faculty, 1899. 1026 Washington St. (104 Old Capitol)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.

Professor and Head of the Department of English, 1899. 1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE CALL, B. A., 1880; M. A., 1883, Iowa.

Professor of Greek Language and Literature, 1885. 21 N. Dubuque St. (106 Liberal Arts)

THE REV. HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.

Professor of Public Speaking, 1900. 803 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.

Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty; 1900. 7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900. 1019 College St. (217 Liberal Arts)

WILLIAM J. BRADY, D. D. S., 1886, Iowa.

Professor of Orthodontia and Dental Technic, 1899. 1027 College St. (Dental Hall)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S. School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901. 510 College St. (Armory)

CHARLES NOBLE GREGORY, B. A., 1871; LL. B., 1872; M. A. 1876; LL. D., 1901, Wisconsin.

Professor of Law, and Dean of the College of Law, 1901. 227 N. Clinton St. (105 Old Capitol)

ERNEST ALBERT ROGERS, D. D. S., 1892, Iowa.

Professor of Dental Anatomy and Regional Anatomy, and Clinical Demonstrator in the College of Dentistry, 1898. 427 Ronalds St. (Dental Hall)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890. 529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

WILBER JOHN TEETERS, B. S., 1893; M. S., 1898, Mt. Union College; PH. C., 1895, Michigan.

Professor of Pharmacognosy, and Director of the Pharmaceutical Laboratory, and Acting Dean of the College of Pharmacy, 1896. West Side. (Chemical Laboratory)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900. 222 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.

Professor in Education, and Inspector of High Schools, 1901. 221 Fairchilds St. (216 Liberal Arts)

WILLIAM JEPSON, M. D., 1886, Iowa; B. S., 1890, University of the Northwest; M. D., 1891, Jefferson Medical College; M. D., 1891, Pennsylvania; L. R. C. S., and L. R. C. P., Edinburgh, and L. R. C. P. and S., Glasgow, 1897.

Professor of Surgery in the College of Medicine, 1902. Sioux City, Ia. (University Hospital)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894. 911 Iowa Ave. (308 Science Hall)

LAWRENCE MARSHALL BYERS, B. A., 1890, Penn College; M. A., 1891, Haverford; LL. B., 1893, Yale.
Professor of Law, 1903. 430 N. Clinton St. (202 Old Capitol)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.
Professor of Petrology, Economic Geology and Mining, 1903.
634 Summit St. (106 Science Hall)

WILLIAM LE CLAIRE BYWATER, M. D., 1897, Iowa; O. et A. Chir., 1900, New York Ophthalmic.
Professor of Ophthalmology and Otology in the College of Homeopathic Medicine, Director of the Homeopathic Hospital, and Secretary of the Faculty of the College of Homeopathic Medicine, 1900. 314 Church St. (Hom. Hospital)

BENJAMIN RICHARD JOHNSTON, M. D., 1893, Hering College, Chicago.
Professor of Theory and Practice, College of Homeopathic Medicine, 1900. Cedar Rapids, Iowa. (Hom. Hospital)

FREDERICK JACOB BECKER, M. D., 1886, Iowa; M. D., 1887, Hahnemann Med. College, Philadelphia.
Professor of Obstetrics and Gynecology, College of Homeopathic Medicine, 1902. 919 E. College St. (Hom. Hospital)

GEORGE VAN INGEN BROWN, D. D. S., 1881, Penn. College of Dental Surgery; M. D., 1895, Milwaukee Medical College; C. M., 1886, Milwaukee Medical College; A. B., 1899, Northern Illinois College.
Professor of Dental Pathology and Oral Surgery in the College of Dentistry, 1902. Milwaukee, Wis. (Dental Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.
Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR G. SMITH, B. PH., 1891; M. A., 1895, Iowa.
Professor of Mechanics in the Department of Mathematics, 1893.
West Side. (12 Liberal Arts)

JOHN GEORGE CHALMERS, B. A., 1901, Lafayette.
Professor and Director of Physical Training and Athletics, 1903.
Bloom Terrace

JOHN THOMAS MCCLINTOCK, A. B., 1894, Parsons; M. D., 1898, Iowa.
Professor of Physiology in the Colleges of Medicine, 1897.
425 Iowa Ave. (Physiological Laboratory)

BARRY GILBERT, B. A., 1899, LL. B., 1901, Northwestern.
Professor of Law, 1903.
4 Bloom Terrace. (204 Old Capitol)

GEORGE T. FLOM, B. L., 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.

Acting Professor in Charge of Scandinavian Languages and Literatures, 1900. 609 Summit St. (10 Liberal Arts)

HENRY ALBERT, B. S., 1900; M. D., 1902; M. S. 1902, Iowa.

Acting Professor in Charge of Pathology and Bacteriology, 1901. 120 E. Market St. (Laboratory Hall)

WILLIAM EDWARD BARLOW, B. A., 1895; M. A., 1899, Cambridge, Eng.; Ph. D., 1903, Goettingen.

Assistant Professor of Chemistry, College of Medicine, 1891. 925 Iowa Ave. (Chemical Laboratory)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.

Assistant Professor of German, 1892. 402 Church St. (102 Liberal Arts)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Assistant Professor of Statistics and Economics, 1898. 505 Washington St. (209 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.

Assistant Professor of German, 1898. 225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.

Assistant Professor in French, 1901. 127½ S. Dubuque St. (120 Liberal Arts)

ALBERTUS JOSEPH BURGE, M. D., 1900, Iowa.

Assistant Professor of Clinical Medicine, College of Medicine, 1901. 22½ S. Clinton St. (Hospital)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.

Assistant Professor in charge of Electrical and Mechanical Engineering, 1903. 330 N. Linn St. (Armory)

FREDERIC BONNET, JR., B. S., 1899, Washington; M. S., 1902; Ph. D., 1903, Harvard.

Assistant Professor of Chemistry, College of Medicine, 1903. 19 E. Market St. (Chemical Laboratory)

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*EMLIN MCCLAIN, B. PH., 1871; B. A., 1872; LL. B., 1873; M. A., 1882; LL. D., 1891, Iowa; LL. D., 1891, Findlay College.

Lecturer on Law, 1881. 400 N. Clinton St.

GERSHOM HYDE HILL, B. A., 1871, Iowa Coll.; M. D., 1874, Rush Medical; M. A., 1881, Iowa Coll.

Lecturer on Insanity, 1890. Des Moines, Iowa

*Resigned January 1, 1904.

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A., 1880, Iowa.
Lecturer on Education, 1891. Cedar Rapids, Iowa

*HORACE EMERSON DEEMER, LL. B., 1879, Iowa.
Lecturer on Law, 1899. Red Oak, Iowa

JAMES FRED CLARK, B. A., 1886; M. A., 1889, Iowa; M. D., 1889, Pennsylvania.
Lecturer on Hygiene in the College of Medicine, 1899.
Fairfield, Iowa. (Hall of Medicine)

JOHN BLAIR KESSLER, M. D., 1887, Iowa.
Lecturer on Dermatology in the College of Medicine, 1899.
Cor. Clinton and Washington Sts.

GEORGE EDWARD DECKER, B. S., 1895; M. D. 1897, Iowa.
Lecturer on Pædiatrics in the College of Medicine, 1900.
Davenport, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.
Lecturer on Journalism, University Publisher, 1900.
Cedar Rapids, Iowa.

JENNINGS PRICE CRAWFORD, M. D., 1893, Iowa.
Lecturer on Surgical Technic, 1900. Davenport, Iowa

THE REV. GEORGE LUTHER CADY, B. A., 1890, Olivet College.
Lecturer on Sociology, 1900. 725 N. Linn St.

THEODORE LINCOLN HAZARD, M. D., 1883, Michigan.
Lecturer and Assistant in the Department of Obstetrics, College of Homeopathic Medicine, 1892.
114 Fairchild St. (Homeopathic Hospital)

GEORGE HAMPTON BREMNER, C. E., 1883, Iowa.
Lecturer in School of Applied Science, 1908. Chicago, Illinois.

WALTER D. LOVELL, C. E., 1891, Iowa.
Lecturer in School of Applied Science, 1908. Des Moines, Iowa

ARTHUR JOHN COX, C. E., 1891; LL. B., 1895, Iowa.
Lecturer in School of Applied Science, 1903. 104 E. Market St.

FRANK R. RUTTER, B. A., 1894; PH. D., 1897, Johns Hopkins.
Lecturer in Commerce and Statistics, 1904. (209 Liberal Arts)

MABEL COLCORD, B. A., 1895, Radcliffe.
Assistant Librarian in Charge, 1902.
223 N. Capitol St. (306 Liberal Arts)

IDA ESTELLE SAWYER, B. PH., 1896, Northwestern; B. L. S., 1900, Illinois.
Reference Assistant in Library, 1902.
21 N. Dubuque St. (303 Liberal Arts)

JESSIE SALANDA SAWYER, B. PH., 1897, Northwestern; B. L. S., 1902, Drexel Inst. Library School.
Assistant Cataloguer, Library, 1903.
223 N. Capitol St. (306 Liberal Arts)

*Resigned January 1, 1904.

JOANNA GLEED STRANGE.
Assistant in the Library, 1901. 322 E. Bloomington. (306 Liberal Arts)

NYLE WILLIAM JONES.
Assistant in the Library, 1902. 110 N. Clinton St. (303 Liberal Arts)

MERTON LEROY FERSON, B. PH., 1900; LL. B., 1901, Iowa.
Law Librarian, 1902. 223 Bloomington St. (203 Old Capitol)

CHARLES EDWARD STUART,
Assistant in Law Library, 1903. 113 Iowa Ave. (203 Old Capitol)

CLEM KNOX.
Assistant in Law Library, 1903. 125 N. Capitol St. (203 Old Capitol)

CLYDE W. MCCLURE.
Assistant in Law Library, 1903. 517 Iowa Ave. (203 Old Capitol)

ALICE YOUNG, B. L., 1896, Minnesota.
Registrar and Dean of Women, 1900.
311 E. College St. (108 Old Capitol)

CLARA LOUISE ABERNETHY, B. A., 1902, Iowa.
Assistant Registrar, 1902. 21 N. Dubuque St. (108 Old Capitol)

HERBERT CLIFFORD DORCAS, B. PH., 1895, Iowa; M. A., 1903, Columbia.
Instructor in Education, and University Examiner, 1895.
428 Ronalds St. (218 Liberal Arts)

LOUISE ELIZABETH HUGHES, B. PH., 1878; M. A., 1881; B. A., 1899, Iowa.
Instructor in Latin, 1896. 122 N. Capitol St. (112 Liberal Arts)

CARL LEOPOLD VON ENDE, B. S., 1893; M. S., 1894, Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. 715 N. Gilbert St. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899. 328 N. Linn St.
(12 Liberal Arts)

SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900, Johns Hopkins.
Instructor in English, 1900. 209 Fairchild St. (207 Liberal Arts)

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Morphology and Physiology, 1898.
120 E. Market St. (104 Science Hall)

JOHN P. MULLIN, M. D., 1893, Iowa.
Demonstrator of Anatomy, 1901. 104 E. Bloomington

SAM BERKLEY SLOAN, B. A., 1899, Nebraska.
Instructor in English, 1899. 506 N. Linn St. (118 Liberal Arts)

HENRY WALDGRAVE STUART, B. PH., 1895, California; PH. D., 1900, Chicago.
Instructor in Philosophy, 1901. 231 Fairchild St. (209 Liberal Arts)

HENRY MORROW, JR., D. D. S., 1897, Iowa.
Demonstrator of Prosthetic Dentistry. 505 College St. (Dental Hall)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902.
120 N. Dodge St. (317 Liberal Arts)

PAUL SKEELS PEIRCE, B. PH., 1897, Cornell; PH. D. 1900, Yale.
Instructor in History, 1902. 1011 Woodlawn (223 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902.
106 Fairchild St. (205 Liberal Arts)

ALDEN ROBBINS HOOVER, B. S., 1902, Iowa.
Instructor in Histology and Embryology, 1901.
213 E. Market St. (Laboratory Hall)

MABEL CLARE WILLIAMS, B. PH., 1899; PH. D., 1903, Iowa.
Instructor in Psychology, 1899.
13 E. Davenport St. (215 Liberal Arts)

CHARLES IRWIN LAMBERT, B. DI., 1896; M. DI., 1897, Iowa NORMAL SCHOOL; B. S., 1901; M. S., 1903; M. D., 1903, Iowa.
Instructor in Pathology and Bacteriology, 1900. 114 Market St.

BERTON ALONZO SMALL, D. D. S., 1902, Iowa.
Demonstrator, College of Dentistry, 1902.
13 W. Harrison St. (Dental Hall)

ROSCOE HENRY VOLLAND, B. DI., 1898; M. DI., 1899, I. S. N. S.; D. D. S., 1902, Iowa.
Demonstrator, College of Dentistry, 1902. (Dental Hall)

WILLIAM E. BECK, B. S. 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900.
518 South Clinton St. (115 Liberal Arts)

FREDERICK WILLIAM BAILEY, B. S., 1901, Iowa.
Assistant Instructor in Physiology, College of Medicine, 1901.
220 Davenport St. (Physiological Laboratory)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A., 1900, Iowa.
Assistant Instructor in English, 1900.
215 Ronalds St. (226 Liberal Arts)

JOHN GABBERT BOWMAN, B. A., 1899, Iowa.
Assistant Instructor in English, 1901
215 Ronalds St. (226 Liberal Arts)

VALBORG KASTMAN,
Assistant Instructor in Physical Training, 1902.
223 N. Capitol St. (5a. Liberal Arts)

HARRIETTE GRACE HOLT, B. PH., 1896, Iowa.
Assistant Instructor in French, 1902.
225 Iowa Ave. (6 Liberal Arts)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E. 1901, Iowa.
Assistant Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

HOWARD HERMAN QUAIFE, D. D. S., 1903, Iowa.
Assistant Demonstrator in Prosthetic Dentistry, 1903. (Dental Hall)

WALTER EDWARD KEEHL, D. D. S., 1903, Iowa.
Assistant Demonstrator in Prosthetic Dentistry, 1903. (Dental Hall)

CALVIN WALDO HARNED, D. D. S., 1903, Iowa.
Assistant Demonstrator in Prosthetic Dentistry, 1903. (Dental Hall)

HELEN MAY EDDY, B. A., 1900; M. A., 1903, Iowa.
Teaching Fellow in Latin, 1901. 4 Jefferson St. (112 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896; M. A., 1902, Penn College.
Fellow in English, 1902. 4 Jefferson St. (226 Liberal Arts)

CHARLOTTE MARIE LORENZ, B. A., 1902, Iowa.
Fellow in German, 1902. West Side. (8 Liberal Arts)

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.
Fellow in Zoology, 1902. 318 N. Dubuque St. (305 Science Hall)

WALTER MARTINUS BOEHM, B. S., 1902, Iowa.
Fellow in Physics, 1900. 406 S. Clinton St. (Hall of Physics)

FRED J. SEAVER, B. S., 1902, Morningside College.
Fellow in Botany, 1902. 321 Church St. (206 Science Hall)

JOSEPH HARDING UNDERWOOD, B. A., 1902, Western College.
Fellow in Economics and Statistics, 1902.
120 Davenport St. (205 Liberal Arts)

CHARLES SCHUTZ KRAUSE, B. S., 1902, Iowa.
Fellow in Pathology and Bacteriology, 1901.
9½ S. Dubuque St. (In Liberal Arts)

GUY GRIFFIN FRARY, B. S., 1902, Morningside College.
Fellow in Chemistry, 1903. 114 Fairchild St. (Chemical Laboratory)

JAMES GARDNER GOODWIN, B. S., 1899, WESLEYAN UNIVERSITY. Middleton, Conn.
Fellow in Chemistry, College of Medicine, 1903.
115 Fairchild St. (Chemical Laboratory)

HENRIETTA DOROTHY PLOCK, B. A., 1901, Iowa.
Fellow in German, 1903. 328 N. Dubuque St. (8 Liberal Arts)

ROBERT D. KREBS, B. A., 1903, Iowa.
Scholar in Greek, 1903. 128 Bloomington St.

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di., 1900, Iowa State Normal; B. PH., 1903, Iowa.
Scholar in Sociology, 1903. 220 N. Dubuque St. (204 Liberal Arts)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Scholar in Pathology, 1903. 9½ S. Dubuque St. (Laboratory Hall

HARRY EUGENE ILSLEY, B. S., 1899, Coe College.
Scholar in Geology, 1903. 715 N. Gilbert St. (106 Science Hall

CARL VOLNEY KENT, B. S., 1904.
Scholar in Physics, 1903. 230 Fairchild St. (Hall of Physics)

IDA THERESIA SPEIDEL, B. S., 1903, Iowa.
Scholar in Mathematics, 1903. 20 S. Linn St.

ALICE FLORENCE MCGEE, B. PH., 1901, Iowa.
Scholar in French, 1903. 122 Church St. (121 Liberal Arts)

GRACE HELEN KENT, B. A., 1902, Iowa.
Scholar in Philosophy, 1903. 129 S. Madison St.

ANNA JOHNSON, B. A., 1903, South Dakota.
Scholar in Mathematics, 1903. West Side. (118 Liberal Arts)

JESSE RESSER, B. PH., 1903, Iowa.
Scholar in Public Speaking, 1903. 113 Court St. (312 Liberal Arts)

DANIEL STARCH, B. A. 1903, Charles City College.
Scholar in Philosophy, 1903. 208 Fairchild St. (214 Liberal Arts)

ELIZABETH LEWIS SHERWOOD, B. A., 1891; M. A., 1903, Iowa.
Scholar in English, 1903. 124 Church St.

MAY SHUCK, B. PH., 1900, Iowa.
Scholar in English, 1903. West Side.

ZADA MARY COOPER, PH. G., 1897, Iowa.
Assistant in Pharmaceutical Laboratory, 1897.
415 E. Washington St. (Pharm. Lab.)

HARVEY HAYES LOCHRIDGE, B. S., 1901, Beloit.
Assistant in Chemistry, 1901. 818 Ronalds St

MARY SLEIGHT EVERTS.
Assis ant in Public Speaking, 1901. 714 N. Linn St.

LEORA JOHNSON, M. D., 1890, Iowa.
Clinical Assistant to the Chair of Surgery, College of Homeopathic Medicine, 1890. 12 N. Clinton St, (Hom. Hospital)

RAYMOND EDWARD PECK, M. D., 1897, Iowa.
Assistant to the Chair of Surgery, 1899.
Davenport, Iowa. (Hom. Hospital)

EDWARD ELLSWORTH BLYTHE, B. PH., 1900, Iowa.
Assistant in Histology, 1901. 4 Prentiss St.

JOHN G. MUELLER, M. D., 1895, Iowa.
Assistant in Gynecology in the College of Medicine, 1901.

LINTON W. STRUBLE, M. D., 1897, Iowa.
Assistant in Materia Medica in the College of Homeopathic Medicine, 1901. West Liberty, Iowa. (Homeopathic Hospital)

JAMES MOOREHEAD, M. D., 1893, Iowa.
Assistant to Theory and Practice, College of Homeopathic Medicine, 1903.
Marion, Iowa. (Homeopathic Hospital)

ADELBERT W. STARBUCK. D. D. S., 1898, Iowa.
Assistant in Histology, College of Medicine, 1900. 122 E. Court St.

FREDERIC WARNER BOOTS.
Assistant in Histology, 1902. 213 Market St. (19 Liberal Arts)

WILFIE ABRAHAM SUTHERS, D. D S., 1902, Iowa.
Clinical Demonstrator in the College of Medicine, 1903. (Dental Hall)

JOSEF WIEHR.
Assistant in German, 1903. 113 Prentiss St.

ADIN N. BROWN, PH. G., 1903, Iowa.
Assistant in Pharmacy, 1903. (Pharmacy Laboratory)

CHARLES HENRY SWIFT.
Assistant in Internal Medicine, College of Medicine, 1903.
101 N. Gilbert St

FRED ALBERT, JR., B. PH., 1903, Iowa.
Laboratory Assistant in Pathology, 1903. 120 Market St.

BERTHA BELLE QUAINTANCE, B. A., 1899, Nebraska.
Assistant in English, 1900. 821 Market St.

JOHN CARVILLE.
Assistant in Geology, 1892. 610 Jefferson St. (106 Science Hall)

FRANK DUNN KERN.
Laboratory Assistant in Morphology, 1902. (102 Science Hall)

RUDOLPH ERNST KLEINSORGE.
Assistant in Physiology, 1903. 425 Iowa Avenue.

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist. 8 College St. (4 Science Hall

FRANK ROLAND MOLSBERRY.
Band Master, 1903. 8 College St. (Old Armory)

HARRY J. JONES.
Senior Assistant Demonstrator in Anatomy, 1903. 510 S. Clinton St.

WALTER H. FOX.
Junior Assistant Demonstrator in Anatomy, 1903. 806 Market St.

OSCAR HAWKINSON.
Prosector in Anatomy, 1903. 120 E. Market St.

ARTHUR DANIEL WOODS.
Prosector in Anatomy, 1903. 527 Ronalds St.

ELVA MARION DUNHAM, Graduate Nurse, 1900, Iowa.
Superintendent of the Nurses' Training School and of the Homeopathic Hospital, 1903. (Homeopathic Hospital)

ANTONIA EPENETER, Graduate Nurse, 1900, Iowa.
Principal Nurses' Training School, 1903. (University Hospital)

ADELAIDE LOUIS.
Matron of the University Hospital, 1903. (University Hospital)

GENERAL INFORMATION

GROUNDS

Plans have been made to keep and beautify the historic Old Capitol campus as the center for the enlarged grounds which are to front the river and to be connected with the athletic field on the west, and through the newly acquired medical quadrangle, with the old park or hospital campus on the east. With fifty acres in the heart of one of the most picturesque and sanitary small cities in the United States, with possibilities of park extension across the river, the opportunities for landscape architecture equal those of the most favored seats of learning. It is hoped that the Iowa River may be dammed just below the University grounds, making a beautiful water front and giving facilities to add all forms of water sports to the athletics of the University.

INCOME OF THE UNIVERSITY

The University enjoys the proceeds of the invested funds and lands originally given by the United States. Recent General Assemblies have enlarged the general support fund of the University by permanent appropriations. The University enjoys the proceeds from a one-fifth of a mill levy for buildings alone. The liberality of these Assemblies, perhaps for the first time in its history makes it possible for the University to anticipate reasonably adequate support and modern buildings and equipment.

BUILDINGS

The University at present occupies nineteen buildings, (not counting one to be erected this summer), beautifully situated near the business center of Iowa City. They are as follows, the order being that in which they were erected:

The Old Capitol, in which are located the administrative offices and the College of Law. This building is the old State House, the corner stone of which was laid July 4, 1840.

Hall of Engineering. The first floor and basement have been rehabilitated since the fire for temporary use, and are occupied by the Civil Engineering Department.

The Hall of Physics furnishes quarters for the Physical Laboratories and lecture rooms.

The Clinton Street Building, No. 14 North Clinton street, formerly the Homeopathic Hospital, about to be vacated by the department of Physiology of the College of Medicine.

The Old Armory, recently assigned to the department of electrical engineering.

The Medical Hall has been refitted for temporary use since the fire and contains a dissecting laboratory, and lecture rooms for the medical colleges.

Natural Science Hall, in which are located the four departments of biological science of the College of Liberal Arts, and also the Museum of Natural History.

The Hall of Chemistry, containing the laboratories of general, medical, and pharmaceutical chemistry and a large amphitheater.

Close Hall, the home of the Young Men's and Young Women's Christian Associations of the University. This building is the property of the two associations. It contains a gymnasium, reading rooms, waiting rooms, parlors, committee rooms, and offices. The second floor is occupied by the forensic societies of the college of Liberal Arts.

Dental Hall, occupied exclusively by the College of Dentistry, and furnished with the most modern equipment, electrical and otherwise.

The Hospital of the College of Homeopathic Medicine, affording accommodations for fifty-four patients and containing a large clinical amphitheater, dispensary, administrative office, and the library of the Homeopathic Medical College.

The Hospital of the College of Medicine, with a large amphitheater, numerous operating rooms and offices, a dispensary, and accommodations for seventy-five patients.

Three small buildings, one for the standard weights and measures of the state; a student's astronomical observatory, and a carpenter's shop.

The Hall of Liberal Arts is three stories and a basement in height, and contains ninety-two recitation rooms, seminary rooms and offices, women's drawing room, and a general lecture

room with seating capacity of 480. The style of the building harmonizes with that of the Old Capitol. It is built of Bedford stone, fire-proofed throughout, and is lighted with gas and electricity and equipped with a complete heating and ventilating system.

It is arranged "*en suite*" for the departments connected with the humanities. The State Historical Society, and temporarily the general library are housed in the third story.

The department of Philosophy also has in this building constructed especially for it not only a spacious suite of rooms, but also a large and particularly well equipped psychological laboratory.

The Hall of Anatomy is the first building completed in the new medical quadrangle. It contains dissecting rooms with the most modern accomodations for 20 tables, an amphitheatre with seating capacity for two hundred and twenty-five persons, offices, reading rooms, an embalming room and a cold storage room. It is a handsome hexagonal, fire-proof building of Bedford stone with granite foundations. The interior finish is designed to make it aseptic.

The second building in the new medical quadrangle contains the general and clinical laboratories of bacteriology, pathology, histology and physiology, with proper waiting rooms for the faculty and students. It is constructed in the same manner and similar style to its companion building just described.

During the spring and summer of 1904 an atheletic pavilion and armory will be completed and used temporarily for a men's and women's gymnasium. This building will be located near the atheletic field and the drill ground.

The Board of Regents have made provision for the laying of the foundations of a fire-proof stone building, the counterpart of the Hall of Liberal Arts, this autumn. This building will ultimately be given wholly to the museum and departments of natural history, but will accommodate temporarily the general library, and furnish a general assembly hall to seat 1800 people.

THE LIBRARIES

There are accessible to students the general University Library and a series of valuable departmental libraries, also the State Historical Society library which is kept in conjunction with the general library at the University; the Library of the College

of Law, and the libraries of the other professional colleges, as well as the Public Library of Iowa City, which is about to move into an elegant stone building given by Mr. Carnegie. This makes available about 110,000 well selected volumes in diverse fields of knowledge. A feature is made of having an extended list of current periodicals.

The University Library contains about 57,000 volumes, not including a large number of pamphlets, and consists of the libraries of the colleges of Liberal Arts, Law, Medicine, Homeopathic Medicine, Dentistry, and Pharmacy. These libraries are shelved in their several college buildings where they are accessible to any one desiring to use them.

The library includes:

1. The Talbot Library, a large and valuable collection of works pertaining chiefly to natural history, explorations, voyages and travels.

2. The Americana Library of several hundred volumes, many rare and of considerable value, the greater number purchased with funds subscribed by the Alumni of the University, others contributed by friends.

3. A fine collection of philological periodicals given by the German citizens of the state.

4. The books contained in the official list of library books for school districts of Iowa recommended by the state board of educational examiners, and maintained for the use of the teachers of the state.

This library being a depository for the Government documents the larger part of the "sheep bound reserve" set of Government publications are located here and the set is being completed as fast as possible.

The University receives by purchase and exchange over 500 periodicals and scientific society transactions.

Members of the faculties and other officers of the University may draw books from the library. To all other persons it is a reference library, and as such is open to anyone.

The general reading room occupies the south end of the third floor of the Hall of Liberal Arts, and is open daily, except Sunday and legal holidays, from 8:00 A. M. to 10 P. M.

The library of the College of Law, numbering about 10,000 volumes, occupies the former Senate chamber on the second floor of the Old Capitol. It contains a full series of the reports

of the Supreme Court of the United States and of the courts of last resort of thirty-six states, including all the series of reports most frequently referred to; also the American Decisions; American Reports; American State Reports; Lawyer's Reports Annotated; English Ruling Cases; a collection of English Reports, which, with additions lately made, is almost complete; full series of the Reporter System; and a large collection of the latest and best law text-books.

A valuable collection of 1,200 volumes relating principally to the civil law and the history of the common law, presented to the University by Mrs. Hammond, widow of William G. Hammond, LL. D., the first Chancellor of the College of Law, is kept in the law library as a separate collection for the use of the students of the College and others interested in such subjects. These books are kept in special cases, under the charge of the law librarian, and are accessible upon request.

The reading room of the law library is open from 8:00 A. M. to 12 M., from 1:30 to 5:30 P. M., and from 7:00 to 9:00 P. M. of each day except Saturday, and also during the forenoon of Saturday.

The Library of the College of Medicine, which was destroyed by fire in 1900, has been replaced, and comprises the latest editions of standard works, as well as many volumes of periodicals relating to the various branches of medical science.

The College of Homeopathic Medicine possesses a valuable professional library, located in the Homeopathic Hospital.

The department libraries are rich in literature of interest to the advanced student.

THE LIBRARY OF THE STATE HISTORICAL SOCIETY OF IOWA.

The library of the State Historical Society, located in the Hall of Liberal Arts of the University, contains about 30,000 volumes and is open for the use of University students. This valuable collection of historical documents is rapidly growing. The society issues its own publications regularly and has on its exchange list the publications of similar societies in the United States as well as a large number of foreign publications and the publications of leading universities both at home and abroad. During the year the Society has established the Iowa Journal of History and Politics.

MATERIAL EQUIPMENT

LABORATORIES

THE PSYCHOLOGICAL LABORATORY

The new psychological laboratory, completed in September, 1901, occupies a part of the second floor of the Hall of Liberal Arts. It includes, in common with the department of philosophy, the following rooms: Two lecture rooms, a library and seminary room, an apparatus room, a workshop, an observing room, a recording room, three general laboratory rooms, and two offices. Owing to the present crowded condition of the Hall of Liberal Arts, resulting from the recent fires, two of the above rooms are temporarily occupied by another department.

The rooms are large and well lighted, supplied with gas and electric light, and have special provisions for darkening. They are heated and ventilated by a system of indirect radiation, and supplied with water where needed. The rooms in the suite are connected by a system of concealed wires radiating from a central switchboard which has connections with a battery closet and the power house. Battery currents and the direct dynamo current may be drawn from several terminals in each room and any two or more rooms may be connected for experimental purposes by means of this system

The observing room is practically sound-proof, light-proof, and jar-proof. It is a room 12x14, with an ante-room 4x14, built inside of another room which rests upon a special foundation and has no solid contact with any other part of the building. It is lined, carpeted, and furnished in black, and is supplied with gas, electric light, switchboard connections, and a special heating and ventilating system. The main room is entered through four tight-fitting doors and when these are closed all communication with the outside takes place through telephone and electric recording instruments. In the typical experiments the observer is left alone in this room where the conditions of the experiment can be controlled, while the experimenter manipulates the instruments in and from the recording room.

The workshop is provided with bench, lathe, motor, tools, material for apparatus, drawing materials, mimeograph, etc.

The library and seminary room contains the entire departmental library, including the subjects of philosophy, psychology, logic, ethics, and aesthetics, and is open all day for the use of students.

The laboratory is equipped with a superior collection of apparatus, illustrative material, supplies, and conveniences for use in instruction and investigation in psychology. The general equipment of the laboratory is designed to fit the plan of instruction, according to which the student in psychology may, the first year, attend a course of lectures in which a rich collection of illustrative material is used and experiments are performed before the class by the instructor. The second year, the student may himself perform a series of model experiments, and for the third and following years he may engage in the investigation of original problems. Accordingly the equipment falls into three classes: (1) apparatus, charts, and other material for use in class demonstration for the first year in general psychology, (2) a complete set of apparatus for standard exercises which constitute the laboratory course for the second year, and (3) apparatus and the varied means employed in the research work, for special tests, and for advanced demonstration experiments.

LABORATORIES OF ANIMAL MORPHOLOGY AND PHYSIOLOGY

The laboratories for animal morphology and physiology occupy the west half of the first floor of the Natural Science Hall, together with a portion of the basement. They are supplied with water and gas throughout, and are lighted by twenty windows.

The laboratory for the elementary courses receives light from the north. It is furnished with heavy oak, slate-topped tables, particularly adapted to the anatomical and microscopical requirements of the work. The tables will accommodate thirty students at one time.

The equipment of this laboratory includes thirty compound microscopes, as many dissecting microscopes, the requisite accessory optical apparatus, a series of over twelve thousand microscopical slides, a large number of anatomical preparations, charts, and models, physiological equipment, and the

numerous pieces of minor apparatus, glassware, etc., incident to general biological work.

The laboratory for the several advanced courses is lighted from the west and south. It is furnished with tables and reagent racks designed to meet the special requirements of the work pursued here. A smaller room opening from the main one supplies the conditions desired for apparatus of constant temperature. The equipment of this laboratory embraces special microscopes, sliding microtomes of approved pattern, two Minot automatic microtomes for serial sectioning, a large Lillie water bath for paraffin imbedding, a laboratory incubator for work in embryology, a warm chamber of ample size, a complete stock of biological reagents, sets of bottles for each student, a large assortment of glassware, a suspended pantograph, a series of over four hundred charts, and ninety-three wax models by Ziegler illustrating the embryology of Amphioxus, the Trout, the Frog, and the Chick.

Opening from the main laboratories are smaller rooms available for those pursuing special lines of investigation. The basement laboratory is utilized for aquaria, anatomical tanks, animal cages, and appliances for various lines of special work.

A reference library in English, French, and German is kept in the laboratories, and is accessible at all times during the working hours. A subject-index on the card catalogue system renders the literature more readily available.

ZOOLOGICAL LABORATORY

This laboratory has been newly equipped and is now able to furnish much better facilities than ever before. It is situated on the second floor of Natural Science Hall. The main items of the equipment are the following:

1. New laboratory tables designed especially for this work. They have glazed tops of alternating black and white squares to give suitable background for dissecting or examining delicate objects in glass dishes, and drawers for the accommodation of the dissecting tools, lenses, etc. The tables are provided with Welsbach burners in sufficient number to furnish the best of light for either dissecting or microscopic work, and will accommodate twenty-seven students.

2. A high grade dissecting microscope, provided with a jointed arm and two double achromatic lenses, for each student. On the theory that the work in zoology can be done bet-

ter with a good dissecting equipment than by relying too much on the compound microscope, this laboratory has been provided with the best dissecting microscopes and lenses that could be purchased.

3. Compound microscopes of good quality in sufficient numbers to furnish one to each two students are at present available, and it is confidently hoped that there will be one for each student before the beginning of the next collegiate year.

4. An Imperial Sciopticon for use in illustrating lectures. This instrument is provided with electric light, and microscope attachment.

5. A photographic camera with the usual accessories for photographic and lantern slide work, together with a convenient dark room.

6. A set of ordinary dissecting tools and a Coddington lens for each student, together with a very complete equipment in the way of dissecting pans and glassware, such as watch glasses, petrie dishes, stender dishes, embryo dishes, slides, covers, etc.

7. The very extensive zoological collections in the Museum of Natural History are at the disposal of students in this department, furnishing abundant material in many groups for advanced systematic work.

In this connection should be mentioned the departmental library of zoological works, including a complete set of the "Annals and Magazine of Natural History," most of the "Challenger" Reports, and works of reference of various kinds covering the field of zoology in a general way, and admitting of special treatment of several groups which are particularly well represented in the Museum.

BOTANICAL LABORATORY

The laboratory is located on the second floor of Natural Science Hall, and is in direct communication with the herbarium room. It is supplied with heavy oak, slatetopped tables, furnished with drawers and cases for the instruments used in microscopic work, and is arranged to accommodate thirty students at one time. It is equipped with new microscopes and with all the facilities for advanced histological work.

1. Connected with the main laboratory are private laboratories for students pursuing special lines of investigation. Two of these are furnished with special microscopes, a photomicro-

graphic camera, and apparatus for investigation in vegetable physiology.

2. A fine stereopticon with hundreds of slides furnishes the material basis for general illustration, and for Monday evening lectures. The laboratories are well lighted and in every way adapted to satisfactory work.

3. The herbarium affords a very large amount of material suitably preserved for various lines of investigation in histology, embryology, as well as in all departments of taxonomic research.

4. A fully equipped dark-room is at the disposal of students whose work in the department requires photographic illustration.

5. All the more important works of reference in botanical science are found as a working library in the laboratory.

LABORATORIES OF GEOLOGY, PETROLOGY, AND PALEONTOLOGY

The equipment of the department embraces:

1. The laboratory collections, including;
   - a. An extensive collection of American and European fossils, illustrating the history and development of life from the earliest geologic ages to the present time.
   - b. Several hundred mineral specimens selected and arranged to illustrate the economic geological resources of the United States, including:
     - (1). The metalliferous products, such as the various ores of gold, silver, copper, iron, etc., and their modes of occurrence.
     - (2). The non-metalliferous products, such as coal. building materials, gypsum, etc.
   - c. A collection of rock-making minerals.
   - d. A collection of rock specimens, illustrating the mineralogical composition, structure, mode of occurrence, and classification of rocks.
   - e. A large number of sections of rocks, minerals, and fossils for microscopic study in connection with the work in petrology and paleontology.

2. Globes; physical maps of the continents and oceans; a series of topographical and geological maps and charts, published by the United States Geological Survey, the various state surveys, and the surveys of foreign countries, geological and physiographical models, and relief maps; more than two thousand lantern slides, covering every phase of geology which can be illustrated in this way; several hundred photographs illustrating physiographic and geologic phenomena.

3. A lithological lathe for making microscopic and other sections of rocks, minerals, and fossils.

4. A number of petrographical microscopes of the most approved design; two Joly balances for specific gravity determinations; Mohs's scale of hardness, etc.

5. A complete photographic outfit, including a large photomicrographic camera.

6. A large series of negatives from which the students make prints to illustrate their permanent notebooks.

7. Equipment for determinative mineralogy.

8. A collection of crystal models, natural crystals, and crystal sections to illustrate the work of crystallography.

9. The library of the department contains over 1,000 bound volumes and about 1,000 catalogued pamphlets. In addition to the standard works on geology and related subjects, the library contains the publications of the United States Geological Survey, the reports of the various state surveys, and a number of geological publications of foreign governments.

10. Geological phenomena illustrated within easy reach of Iowa City.

The surrounding neighborhood affords many instructive examples of phenomena of interest to the student of geology. At the same time it offers unexcelled opportunities for field work in mapping, making geological sections, tracing strata from one exposure to another, and making paleontological collections. The Pleistocene deposits are of especial interest.

The boulders of the drift afford an opportunity for a study of several types of crystalline rocks. The available material is not only sufficient to illustrate the ordinary undergraduate courses in geology, but advanced students will find enough to occupy their time with profit for a number of years.

THE LABORATORIES OF THE COLLEGES OF MEDICINE

The laboratories of the Colleges of Medicine are located in the new laboratory building and are provided with the most modern and adequate equipment.

The physiological laboratory occupies most of the first floor of the building. The main room is well filled with tables,—each table being supplied with gas and electrical apparatus, revolving drums, muscle levers, and other materials necessary for practical physiology. Special rooms are provided for students doing research or advanced work.

The histology and embryology laboratories are upon the second floor of the new hall and the rooms are arranged with special reference to the requirements of microscopical work. Besides the general laboratories for general class work a special laboratory is well furnished and equipped for advance research work of all kinds.

The pathology and bacteriology laboratories occupy the rooms on the third floor of this building and are provided with rooms and equipments adequate for their needs. The rooms are all well lighted and furnished with microscopes and other apparatus of the most modern types. By reason of special association with the pathological institutes of Vienna, Leipzig, and Munich, the department has come into possession of a most complete and varied collection of diseased tissues and organs for the study of general and special pathological histology.

The anatomical laboratory occupies the third floor of the new hall of anatomy and is fitted and equipped throughout with materials and instruments best adapted for anatomical work.

The laboratory of experimental pharmacology, otology and rhinology have rooms prepared for them in this hall and are well supplied with apparatus.

THE CHEMICAL LABORATORIES

A three-story brick building, 105 x 150 feet on each floor, is devoted entirely to the uses of the departments of Chemistry and Pharmacy. The lecture hall is built in amphitheatre form and will accommodate nearly two hundred students,every one of whom can clearly see the lecture table and any experiment that may be performed there, even from the most distant part of the room. There is also a special lecture room for students in pharmacy. The building contains a general laboratory 100

feet in length by 27 feet in minimum breadth for the use of students in the College of Liberal Arts, and two others nearly as large for those in the Colleges of Medicine and Pharmacy; also a large laboratory for advanced students, a laboratory of determinative mineralogy, and several private laboratories which may be fitted up for various special lines of research.

There are also reading rooms containing the libraries of general and pharmaceutical chemistry, spectroscope and balance rooms, engine and dynamo rooms, dark rooms for photography, store rooms, and offices.

A storage battery and dynamo in connection with the gas engine furnish electricity to the various laboratories for electrolysis and other uses. Special facilities in the way of apparatus are provided for the study of physical chemistry.

It is intended to greatly increase the present laboratory equipment for the study of metallurgy in the immediate future by the introduction of experimental plants for ore separation and concentration, and of electric furnaces and refining vats, which will make possible the study of the processes involved under actual working conditions.

THE PHYSICAL LABORATORY

The department of physics occupies the entire three stories of the Hall of Physics, a plain rectangular structure 60 by 90 feet.

The large north room of the basement is equipped with a gas engine and dynamos and other apparatus, with a switchboard wired to all parts of the building. Another basement room is given to the storage battery; one is furnished with lathes and the other metal working tools, and is used as the department shop, an adjoining room being furnished with cabinet-maker's bench and a few wood working tools.

On the floor above are the offices, and several special laboratories for optics, electricity, heat, etc. One room contains the special physical library, and serves also as reading and seminary room.

The second floor, formerly occupied by the general library of the university, has been remodeled and adapted to the use of this department. A lecture room with a seating capacity of 175 has been fitted up with conveniences for physical demonstrations, such as facilities for darkening the room, and for pro-

jection by sunlight and various sources of artificial light. Connected with the lecture room is a commodious apparatus and preparation room. A recitation room with chairs for 35 students, the large, well lighted elementary laboratory, and a complete photographic laboratory with dark room, occupy the remainder of the space on this floor.

The laboratory is well supplied with lecture apparatus, and among the instruments of precision are many of the best and finest to be had. The equipment is especially full in mechanics, optics, and electricity. Most of the apparatus has been purchased in recent years and has been selected with great care, and some have been constructed for particular uses in this laboratory.

ASTRONOMICAL OBSERVATORY

The students' Astronomical Observatory is conveniently located on the University campus. It is furnished with a five-inch equatorial telescope by Grubb of Dublin, having circles, driving clock, position micrometer, helioscope, and solar and stellar spectroscopes; a transit instrument by William Wuerdermann, of Washington; a prismatic sextant and artificial horizon by Pistor and Martins, of Berlin; clock; chronometer; chronograph, etc.

The lecture room equipment includes a fine astronomical globe, a planetarium, a stereopticon, and a series of several hundred lantern slides to which additions are constantly being made. Numerous charts, models and photographs furnish additional illustrative material.

The mathematical and astronomical library comprises over twelve hundred volumes, including many rare and valuable works. The periodical literature devoted to these branches of science is also well represented.

CIVIL ENGINEERING LABORATORIES AND DRAUGHTING ROOMS

The testing laboratory contains an autographic torsion tester, an automatic Reihle standard testing machine of 100,000 pounds capacity; standard abrasion cylinder for testing paving brick; grinders; lathes; and metal, stone, and wood cutting saws for the preparation of specimens; Fairbanks' automatic shot-stop briquette testers of 1000 pounds capacity; briquette making machines of the S. U. I. and Sims types, using standard molds;

concrete molds from 2 to 10 inches in diameter, and all necessary slabs, tanks, baths, thermometers, etc., for making complete physical tests of cements.

An auxiliary fire protection system has been installed in connection with the Hydraulic Laboratory of the Civil Engineering Department. For this purpose a 500 gallon per minute Worthington Duplex Fire Pump is connected in series with the fire system of Iowa City, and discharges in a high pressure main running to hydrants in the campus. This arrangement permits of experimentation on large quantities as well as on high pressures of water. The Hydraulic Laboratory equipment proper includes tanks with standard orifices, tubes and weirs for free and submerged flow, hook gauges, stop watch, and other forms of water-meters, direct, inferential, venturi scales, impulse wheels, ejectors, pressure gauges, and other necessary appliances for demonstrating hydraulic principles; also a Price's pneumatic current meter for field gaugings.

The draughting rooms are at present located on the first floor of the Civil Engineering Hall and are well lighted and equipped with models for drawing and descriptive geometry, and other necessary appliances. It is expected that additional room will be available for the engineering department next year.

The department is provided with a field equipment ample to permit full and complete practice in the different branches of plane surveying; this equipment consists of a vernier compass, a railroad compass, a solar compass, levels and transits, with stadia, gradienter, and Saegmuellar solar attachment; also a plane table of the latest approved form, with telescopic allidade and all necessary attachments, together with all the rods, flags, chains, tapes, etc., that are necessary to equip fully the various classes and divisions in surveying.

The engineering library contains over 700 volumes of the standard works on various engineering subjects. These books are selected from and are a part of the general library, but are arranged in a convenient room adjacent to the drawing rooms, and are freely used by the engineering students. Among the engineering journals are: *Engineering News*, *Engineering* (London), *Engineering Record*, *Municipal Engineer*, *Engineering Magazine*, *Yale Scientific Monthly*, *Engineering and Mining Journal*, *Street Railway Review*, *Railway and Engi-*

neering Review, Canadian Engineer, Compressed Air, American Engineer, American Architect, Journal Western Engineering Society, Brick, The Clay Worker, Technology Review, Technograph, Journal of the Franklin Institute, and others, many being exchanges for *The Transit*. A catalogue of the books in this library have been printed and will be sent on application.

Students in any engineering or science course are eligible for membership tn the Engineering Society. This Society meets each week, and papers upon engineering or scientific subjects are prepared and read by the students.

An engineering journal, *The Transit*, is published annually by the University. It is edited by a committee of the Engineering Society and contains, besides other matter, the results of original research in engineering and scientific problems by under-graduate students, alumni, and others.

Besides the construction of the auxiliary fire protection system in connection with the Hydraulic Laboratory, there has also been installed a machine shop, containing a planer, milling machine, shaper, six lathes also (the largest having a normal swing of 18 inches), drill press, grinders, polishing head, metal and stone cutting band saws, circular saw, and a full complement of finer tools and instruments, vernier calipers, micrometer gauges, scales, etc.

High pressure steam for power, to supplement the day current from the dynamos at the new heating and power plant, is now available at all times.

ELECTRICAL ENGINEERING LABORATORY

The lower floor of the Old Armory has been remodeled and equipped as a laboratory of electrical engineering. It includes dark rooms for photometry and photography, a large storage battery room, an instrument room and a large main room for use in experimental work. New apparatus has been put in place and more is to be added with the opening of the year.

As part of the equipment already in place may be mentioned a 120 ampere-hour storage battery, Weston volt meters and ammeters, galvanometers and resistance boxes and a complete testing set.

The laboratory is supplied with 110 and 220 volt continuous current from the central heating plant and with 110 volt alternating current from the city lines.

Upon the completion of the new armory the department of electrical and mechanical engineering will occupy the whole of the old armory building. The lower floor and part of the second floors will be used for laboratory space and the rest of the building for lecture rooms and library.

NATURAL HISTORY COLLECTIONS

GEOLOGICAL COLLECTIONS

1. A large series of building stones, fossils, earths, etc., collected chiefly in the prosecution of the state geological surveys between the years 1856 and 1870. These collections are constantly increasing by contributions from various sources.

2. The Calvin collection of American and European fossils.

3. Mineralogical collections embracing the metalliferous, non-metalliferous, and rock making minerals.

4. The petrological collection includes several hundred rock specimens illustrating the various types of igneous and sedimentary rocks, their mineralogical composition and structural features.

5. A collection of cycads from Mesozoic sandstone in the Black Hills.

6. Recent extensive collections illustrating the cretaceous faunas and economic geology of the Black Hills.

7. A collection illustrating general economic geology.

A beautifully preserved skeleton of a mosasaur (*Platecarpus*) has lately been added to the geological collections through the generosity of the Davenport Alumni Association.

During the year additions have been made to the collections both by purchase and gift, as well as by the efforts of the members of the department.

HERBARIUM

The herbarium is located in two rooms on the second floor of the Hall of Science. It contains:

1. A large collection of myxomycetes from all parts of the world, but particularly rich in North American forms.

2. A very large and constantly increasing collection of fungi, both parasitic and saprophytic, from all parts of North and Central America.

3. A collection of lichens, representing most of the species of the United States.

4. A collection of mosses and liverworts, chiefly North American, but containing representatives from all parts of the world.

5. A large collection of ferns and related plants from both hemispheres, including an especially complete series from tropical America.

6. A collection of many thousand flowering plants, representing very fully the flora of North America, and especially rich in Central America and European forms. The number of plants in the herbarium exceeds 200,000.

7. A collection of seeds and dry fruits, including cones, representing the flora of North America chiefly but containing also much material from the tropics.

8. A collection of the principal woods of the United States.

9. A collection of economic plant products, including plant fibers, *materia medica*, etc.

10. A very extensive collection of Iowa plants, including all groups represented in the state. These are separate from the general herbarium, and offer an excellent opportunity to students who desire to study the state flora.

11. A large collection of fossil leaves, etc., not now displayed for lack of room.

The herbarium collections, thanks to friends and collectors in various parts of the world, are steadily increasing in extent and value. It is hoped that private collectors will hereafter as heretofore find the University a proper place for the deposit and care of collections of plants.

Botanical field work has been conducted by representatives in the department in various parts of the state and country. During the past year work has again been directed to the collection of the State flora chiefly, with special reference to matters of distribution. Excursions have also been made to New Mexico and Texas, and much valuable material from these regions was secured. Special thanks for herbarium material are due to James E. Gow, S. Calvin, F. J. Seaver, L. H. Pammel, Hattie M. Clearman, Eugene Secor, S. F. Sherbon, Lucy M. Cavanagh, Anna Z. Ross, Emma Havlik, and Maud Brown.

Special mention should also be made of the fact that Mr Charles L. Smith loaned his collection of named Mexican plants to the herbarium for study and comparison.

A constantly increasing library of systematic botanical literature is available to students carrying on special investigations in the herbarium.

MUSEUM OF NATURAL HISTORY

The Museum of Natural History has attained a rank second to none in the universities of the West and is daily becoming more valuable through donations of material by friends of the University.

By the generosity of the collector the Hornaday collection of mammals and birds has become the property of the University. This collection contains many rare forms of mammals and birds, and is particularly rich in typical exotic forms from India and Australia.

Mr. D. H. Talbot, of Sioux City, has donated to the University his extensive collection of natural history specimens and minerals. This collection contains many thousand specimens, being especially rich in mammals, birds, and anatomical preparations.

During the last fifteen years expeditions for zoological explorations in the interest of the University have visited the following regions: Bahama Islands, Bay of Fundy, Rocky Mountain region, Pacific coast, Alaska, mountains of Tennessee, the Winnipeg country, Lake Athabasca, Great Slave Lake, the Arctic coast, Siberia, Cuba, Florida Keys, Atlantic coast, British West Indies, the Bay of Naples, and the Hawaiian Islands.

More than half of the natural history collection is included in the *reserve series*, which has been arranged and labeled with the intention of making the material of the utmost practical use to students of natural history.

A library of reference for the use of students of zoology is placed on the museum floor, and a free use of all the material in the various collections is encouraged, for which purpose a cheerful and convenient study room has been provided for the use of students and specialists.

ZOOLOGICAL COLLECTIONS

1. MAMMALS—A large series of mounted specimens is now on exhibition, the great majority being rare and valuable foreign species, including a series of marsupials which surpasses anything of the kind west of the Alleghanies.

Besides the Hornaday collection, the museum contains a large number of native mammals, about forty specimens being from the Pacific coast. A good series of the larger mammals of North America has been secured through the kindness of Mr. D. H. Talbot, and the efforts of the late Dr. Frank Russell, who returned from the far north with an exceptionally fine series of the larger mammals of that region, including five good specimens of the musk ox.

2. BIRDS—The ornithological material in the museum now embraces about 11,000 specimens, about 1,000 of which are exhibited in the mounted series, the remainder being included in the study series for the use of students and specialists.

Besides a large collection of native birds, containing nearly all the species found in Iowa, the following collections are noteworthy:

The Hornaday collection of birds, containing one hundred and twenty-five specimens, nearly all of which are exotics, and many, such as the ostrich and the emu, of great value.

The Bond collection of birds of Wyoming, donated, together with a large collection of Iowa birds, by Mr. Frank Bond of Cheyenne, Wyoming.

The Harrison collection of British game birds and birds of prey, a large and valuable series, donated by John Harrison, Esq., of England.

The Talbot collection of American birds, embracing thousands of specimens, mostly from the Mississippi valley.

A collection of 500 birds from the N. W. Provinces of British America, made by the Curator, the late Dr. Frank Russell, and Professor A. G. Smith.

A collection of about 600 specimens of birds from the Winnipeg country, Great Slave Lake, Athabasca Lake, the Mackenzie River, and the Arctic coast, made by Dr. Frank Russell.

A small but valuable collection of birds of the Hawaiian Islands, collected by the Curator in 1902.

The curator has donated his study series of over 800 bird skins from Central America and the Bahama Islands.

3. REPTILES—The alcoholic collection of reptiles has received many important additions, among which may be mentioned a number of specimens from India, donated by Rev. A. Loughridge, and many native specimens presented by students. Ex-Regent B. F. Osborn has donated his large collection of alcoholic specimens, which consists principally of reptiles, thus nearly doubling the series of these forms.

4. FISHES—Professor B. Shimek has presented the Museum with his entire collection of fresh-water fishes, of which the Museum now has seven hundred specimens, besides a number of marine forms.

A collection of 135 species of the fresh-water fishes of Central and Western North America has been donated to the University by the United States Fish Commission.

A series of fishes from the Hawaiian regions has just been added to this collection.

5. INSECTS—Professor Wickham is now engaged in assorting a large series of the coleoptera and lepidoptera of North America which he has generously donated. All of the foreign coleoptera in his large collection are now the property of the Museum.

6. MARINE INVERTEBRATES—A collection consisting of several thousand specimens of crustaceans, mollusks, star fishes, corals, sponges, etc., has been supplemented by a valuable series consisting of several hundred alcoholic specimens, many of which are the gift of the United States Fish Commission.

The alcoholic collection has been enlarged by marine forms collected during two expeditions to the Bahamas, Cuba, and the Florida Keys, and thousands of specimens have been added by collections made in the Bay of Fundy by Professors Calvin and Nutting.

A carload of marine specimens was secured by the Bahama expedition in 1893. This collection contains a large number of deep-water forms, thus giving the University special advantages in the matter of marine materials for exhibition and study.

A valuable series of marine forms of the more fragile and delicate kinds, such as medusæ, sea-anemones, etc., has been secured from the *Stazione Zoologica* at Naples, where the most superb preparations of the beautiful forms are made. These

are supplemented by a number of gelatine models of medusæ, hydroids, etc, imported from Germany.

The museum is to receive one entire series of the marine forms collected by the U. S. S. "Albatross" during her Hawaiian cruise of 1902.

7. TERRESTRIAL AND FRESH-WATER MOLLUSCA—The Shimek collection of land and fresh-water shells, embracing nearly all the species known to occur in Iowa, together with many exotic species.

OSTEOLOGICAL PREPARATIONS—A series of mounted skulls and skeletons, illustrating the osteology of typical series of vertebrates, is of the greatest value to students of comparative anatomy and zoology. The skeleton of a large whale (*Balæne biscayensis*) was secured in 1898, and a fine specimen of Stellei's sea lion in 1899.

ETHNOLOGICAL COLLECTIONS

There is considerable ethnological material in the Museum, illustrating the handiwork of the Mound Builders, Pueblo Indians, Zunis, Moquis, Acomas, Mojaves, Crees, Dog Ribs, Metis Kosmolliks, Piegans, Tchukchees, and Navajos, together with skulls and other remains of the ancient and modern inhabitants of America.

Mr. D. H. Talbot of Sioux City has added very largely to this department of the Museum. The late Dr. Russell was active in securing ethnological specimens illustrating the life and manufactures of the Crees, of other northern tribes of Indians, and of the Esquimaux.

Mr. H. M. Griffith of the Fifty-first Iowa Volunteers brought from Luzon a valuable collection which he has generously donated to the Museum.

A small collection illustrating the Ethnology of the Hawaiian Islands was secured by the Curator in 1902.

THE EDUCATIONAL MUSEUM

A good beginning has been made in the collection of a pedagogical museum, in which it is designed to have material representing all phases of model school room instruction, and also materials representing educational practices of the past.

Anyone desiring to assist in this enterprise may send such contributions as old text books, books of collateral literature,

models of work executed by pupils, including examination papers, written digests, laboratory notes, papers, drawings, work in color, designs in wood, metal, clay, or paste board, photographs, plans, and descriptions of school buildings. All objects should be sent to "The Educational Museum," and all correspondence addressed to the Professor of Education. Prompt acknowledgement will be made of all favors received.

MUSEUM OF SCULPTURE CASTS

In connection with the department of Classical Archeology a museum of plaster casts of Greek and Roman sculpture has been established. Full casts have been obtained of the Venus from Melos, and of four other well known statues; a representative series of reliefs illustrate the remains of the art of Phidias; the collection also includes several busts, three from statues of the Greek authors. The class graduating from the College of Liberal Arts in 1901 added to the collection a cast of the statue of Sophocles, which is preserved in the Lateran Museum at Rome; this cast is exhibited in the main corridor of the Hall of Liberal Arts.

THE PATHOLOGICAL MUSEUM

The pathological museum occupies a large room on the third floor of the Hall of Liberal Arts. It contains a very valuable and varied collection of preparations, preserved in their natural colors, especially adapted for the illustration of different pathological conditions. Most of the material has been secured by making personal visits to the pathological institutes of the larger European centers; from the University clinics and autopsies and as contributions from professional friends.

Physicians are earnestly requested to send to "The Pathological Museum" any specimens of pathological anatomy. For all such favors, credit will be given by labeling the specimens with the name of the donor before placing them in the museum. Acknowledgment will also be made in the annual announcement of the College of Medicine.

THE TERRILL WATER POWER

Through the liberality of Mr. and Mrs. Euclid Sanders of Iowa City, the dam in the Iowa river one mile north of the University campus, known as the Terrill mill dam, has been granted

to the State University of Iowa together with the water power right pertaining thereto, the same to be used primarily in connection with the development of the School of Applied Science. The power thus available will range from 150 to 750 horse power, depending upon the stage of the river, but will seldom be less than 300 horse power.

It is proposed to erect upon the site of the old Terrill mill a water power plant which shall at the same time serve as a hydraulic laboratory. Here experiments may be carried on upon a commercial scale. Wheel berths will be provided for large and permanently mounted turbines, while others will be reserved for purely experimental purposes; thus affording the opportunity for testing the relative efficiency of turbines, undershot, breast and overshot wheels of different patterns. A considerable head of water will also be provided by the construction of a reservoir upon a neighboring hill, thus making possible a still greater variety of hydraulic investigations. The abundant water supply immediately at hand, together with the adequate power for handling it, will also make it feasible to undertake experiments in the settling, filtration, and other methods of purification of water upon a scale large enough to insure results of practical value.

There is now under serious consideration a plan to build a new dam under the present water power rights a mile below the old one, crossing the river near the southern limits of the University campus. This will bring the proposed water power plant and hydraulic laboratory within easy access of the other power plants and laboratories and will secure a fine water front to the west of the campus. The available power will also be considerably increased.

ITEMS OF GENERAL INTEREST

UNIVERSITY PUBLICATIONS

LEARNED BULLETINS

Natural History Bulletin—The laboratories of natural history inaugurated in 1888 the publication of bulletins for the purpose of preserving a record of the work prosecuted along the lines of botany, geology, and zoology. Four volumes have thus far appeared in sixteen numbers, and the fifth volume is in process of publication. The numbers have a large circulation and are sent *gratis* to all correspondents from whom the University receives an equivalent, either in publications or in material. To others the price is 50 cents a number.

The Transit is an engineering journal published annually by the University. It is edited by a committee of the Engineering Society, and contains the results of original research in engineering problems by alumni and under-graduate students. Seven volumes have appeared, the first two containing two numbers each.

The Law Bulletin is published at irregular intervals and has been issued for ten years past. It is devoted to the discussion of legal topics taken up in the College of Law.

The Bulletin of Homeopathic Medical College has been published since 1895. Eight numbers have appeared, the last being No. 2 of Vol. II.

The State University of Iowa Studies in Psychology is a biennial publication devoted to experimental psychology. It was begun in 1897. Three volumes have been published.

The State University of Iowa Studies in Sociology, Economics, Politics, and History—Volumes I and II of this series, containing respectively 296 and 150 pages, have already appeared and will be followed by others.

Provision has been made for the publication of bulletins

of Physical Science, Education, and Linguistic Science.

In ordering any of the above publications address the Secretary of the University.

POPULAR BULLETINS

By authority of the Board of Regents separate announcements of the following University organizations will be sent gratutiously, postage paid, to all persons who apply for them: Graduate College; College of Liberal Arts; of Law; of Medicine; of Homeopathic Medicine; of Dentistry; of Pharmacy; The School of Political and Social Science and of Commerce; The School of Applied Science; the Summer Session; the Medical and Surgical Clinics; the Hospitals; and Nurses' Training Schools. In calling for announcements please state the organization or subject concerning which you desire information. The annual calendar of the University consists of the above announcements with the roster of the University staff of administration and instruction, and catalogue of all students. It is for exchange with other institutions and for the General Assembly. Otherwise it may be had only upon special request and payment of postage.

STUDENT PUBLICATIONS

The Daily Iowan—A University newspaper edited by the students.

The Hawkeye—A University annual published by the junior class.

The Middletonian—Published twice a year by the students of the College of Medicine.

LITERARY, FORENSIC AND SCIENTIFIC SOCIETIES

The literary, scientific and forensic societies maintained by the faculty and students of the University afford an important means of general culture, scientific research, and literary and forensic training, and thus form a valuable element as well as an attractive feature in University life.

Of those conducted by the faculty the Baconian has for its object discussion of scientific questions; the Graduate Club is devoted to the interests of the Graduate College; the Political Science Club discusses questions of history, politics, economics, law, education, and ethics; the Whitney Society is devoted to the field of language and literature and the methods of teaching

these subjects; the Greek Club consists of instructors and graduate students working in Greek philology; the English Club is an organization of members of the department of English and graduate students in English; the Edda is devoted to the interests of Scandinavian languages and literature; the Philosophical Club meets monthly for the discussion of problems in philosophy, psychology, logic, ethics, and æsthetics; the Cercle Francais has social gatherings for practice in colloquial French, and at its meetings papers are read in English or in French.

The Phi Beta Kappa Society elects to membership, on the basis of high scholarship, a certain number from the graduating class who have completed the classical or philosophical course.

The Sigma Xi is organized to encourage original research in science, and elects to membership from the senior class a limited number of persons who give promise of becoming investigators in some department of science.

The Engineering Society, the Hammond Law Senate, the Forum, the Middletonian Society, the Hahnemannian Society, and the Dalton Club, are organizations of students in the professional colleges.

Among the purely literary societies are the Tabard, Polygon, and Ivy Lane. The Irving Institute, the Zetagathian Society, the Philomathean Society for young men; and the Hesperian Society, the Erodelphian Society, and the Octave Thanet Society for young women, hold weekly meetings for improvement in debate, oratory, writing, and declamation.

MUSICAL ORGANIZATIONS

The Military Band, with occasional volunteer student musical organizations, helps to cultivate an interest in music in the University.

The student organizations in vocal and instrumental music vary from time to time. In the city there are private teachers who can be secured.

PUBLIC LECTURES

The regents encourage the visits of distinguished scholars, specialists and men in public affairs to give addresses, under the title of "Public Lectures," open to all the University. Thus the students have the latest information as to what is current in the world of letters, science and art, and public affairs.

DEBATE AND ORATORY

The Debating League, composed of Zetagathian Society and Irving Institute, carries on systematic training in debating through private practice and public contests. It has had public debates with the Universities of Chicago, Minnesota, and Wisconsin, and will meet with the two latter this year.

The Philomathean Society is now conducting a series of inter-collegiate debates with Illinois State University.

The Oratorical League is made up of the members of the Zetagathian, Irving, Philomathean, Forum, and Hammond Societies and is a member of the Northern Oratorical League, consisting of Oberlin College, Northwestern University, and the Universities of Wisconsin, Michigan, Chicago, and Iowa.

CHRISTIAN ASSOCIATIONS

The Young Men's and Young Women's Christian Associations are the centers of the religious life of the University and active factors in all forms of moral and Christian work properly within the scope of such organizations. All students of good moral character are invited to membership either active or associate. Through the exertions of these associations Close Hall has been erected, mainly from funds contributed by the faculty, students, and alumni of the University, and the citizens of Iowa City. It is a spacious and convenient building, containing the forensic halls, a gymnasium, reading rooms, reception rooms, and bath rooms. It is extensively used for the meeting of the associations, as well as for the social, literary, and class gatherings of the students.

Through the generosity of Hon. T. S. Parvin the social room of the Y. W. C. A. has been finely fitted out with furniture, cabinet, and pictures as a memorial to his wife and daughter. A similar room for the Y. M. C. A. has been suitably furnished by Mr. W. D. Cannon, Jr., of Iowa City.

The associations strive to be useful to all students in every feasible way. Members meet new students at the trains, aid them in securing suitable rooms and boarding places, hold receptions at the opening of the year and on various occasions, and maintain an employment bureau. The General Secretary is glad to be helpful to students on all occasions.

Churches not affiliated with the Y. M. and Y. W. C. A. have special societies for their students.

MEANS OF MORAL AND RELIGIOUS CULTURE

University assemblies with brief religious exercises are held weekly, and although the attendance is voluntary, they are crowded. Thus the purpose of cultivating the moral, religious and social spirit of the University is heartily recognized.

CONVOCATIONS

In addition there are occasional convocations of all the faculties and students, in which addresses by distinguished speakers are given. Upon these occasions when the entire university is convened, degrees may be conferred.

Besides the opportunities offered by the Christian Associations and the positive influence exerted by them, the churches of the city, in which the members of the faculty are a large factor, take a deep interest in the students of the University and heartily welcome them to their public services and to share in their religious activities and social life. All the prominent churches and denominations are represented, and relative to its population Iowa City deserves to be called the "city of churches."

HOSPITALS

The two hospitals connected with the University afford the best care and treatment for students seriously ill. Provision for free beds for students is commended to the attention of generous friends of the University.

THE DEAN OF WOMEN

Special provision is made for the comfort and welfare of the young women of the University by the appointment of a Dean of Women, who is always ready to help or advise any woman student who may need such assistance. She will recommend boarding and lodging places so far as she is able, see that students who are ill while away from home are put under proper care, assist, as far as possible, young women who wish to earn their way through college, correspond with parents and guardians who desire to make inquiries regarding their daughters or wards, take an interest in the women's organizations and

be ready to make such suggestions as may seem to her to be for the good of all.

APPROVED HOMES FOR YOUNG WOMEN

A list of homes for young women in which there are certain reasonable house rules as to hours, company, etc., may be had upon application to the Dean of Women. This list will be made up after careful inspection and will be revised whenever necessary.

PHYSICAL TRAINING AND ATHLETICS

The University authorities encourage physical training as acquired in the gymnasium, in military training and in the exercises and sports on the athletic field, but only in such amount and of such character as is compatible with the higher objects of the University. Intercollegiate contests are allowed and are held with the leading colleges and universities of the Middle West, but under conditions as to membership, organization of teams, and leave of absence which are determined by the Athletic Board.

The above named Athletic Board consists of five students, five members of the faculty, and one member from the alumni of the University. The general control and supervision of all athletics are in the hands of this Board.

The University is a member of the "College Conference,' comprising the Universities of Chicago, Illinois, Indiana, Iowa, Michigan, Minnesota, and Wisconsin, together with the Northwestern and Purdue Universities. The Athletic Board requires a strict compliance with the "Conference Rules."

The atheletic field contains about ten acres and is in the immediate vicinity of the University grounds. It affords room for a two-fifths mile running track, a football gridiron, and a base ball diamond entirely separate from one another.

The athletic pavilion and armory which will be used temporarily for gymnasium purposes by men and women will have modern apparatus and is favorably located in connection with the athletic field and military drill ground. Classes will be organized for young men and young women and expert instructors provided for each.

TUITION

The following schedule of fees becomes operative with the first semester of the academic year 1904-1905.

Every student, before entering any department of the University, is required to pay a matriculation fee of ten dollars.

Tuition is free in the Graduate College. All students entering this college, who have not previously paid the matriculation fee of ten dollars, however, are required to pay said fee, excepting those to whom graduate scholarships or fellowships have been awarded.

In lieu of all laboratory and other fees, a tuition fee of ten dollars a semester,—an annual fee of twenty dollars, payable in advance, is required in the College of Liberal Arts.

The tuition charges in the Colleges of Law, Medicine, Homeopathic Medicine, and Pharmacy are twenty-five dollars a semester or fifty dollars for the year.

In the College of Dentistry the tuition fee is one hundred dollars a year, but in this college the tuition fee covers the matriculation and diploma fee.

Every student for the summer session of the University is required to pay a fee of five dollars and if such a student is a candidate for a degree and has not yet paid the matriculation fee he must also pay said fee.

Students entering the Library School will be required to pay a fee of five dollars for the first, and ten dollars for the second year's course.

Every student, before graduating or receiving any degree in any college of the University, is required to pay a diploma fee of ten dollars for each degree he receives.

A student carrying six hours or less of work a week in the University shall pay half the regular tuition in the college in which he is registered for the time during which he shall carry such work.

A student registered in more than one college of the University is required to pay the tuition of the college having the higher or highest rate of tuition, of the colleges in which he is registered, and is then granted the privilege of free tuition in any other college in the University.

For special examinations given at other times than those regularly scheduled by the faculty a student is required to pay

a fee of one dollar for each such examination, excepting in cases where special entrance examinations are taken, when the fee shall in no case exceed two dollars.

In the College of Liberal Arts, a student who has been in attendance upon a summer session and has paid the ten dollar matriculation fee, may have his registration projected during the remainder of the collegiate year, doing work absent from Iowa City, upon the payment of five dollars. Such fees will be known as "Projected Registration Fees."

COMPARATIVE STATEMENT OF STUDENT'S EXPENSES FOR THE ACADEMIC YEAR, SEPTEMBER TO JUNE.

	LOW	AVERAGE	LIBERAL
Matriculation Fee (first year only)....	$ 10.00	$ 10.00	$ 10.00
Tuition Fee.....	*20.00	20.00	20.00
Board (36 weeks).....	63.00	99.00	126.00
Room, heated and lighted, (one-half)..	36.00	45.00	54.00
	$ 129.00	$ 174.00	$ 210.00

The above estimates do not include such incidentals as books, clothing, laundry or membership in societies, some of which are luxuries, and all of which vary greatly with the means and habits of the individual students.

The strong and capable student can reduce his expense below the lowest estimate presented in this table which may be regarded as a fair one for a student of ordinary constitution and power of self command.

SELF SUPPORT

Many students earn the whole or a part of their expenses at the University by doing such work as waiting on tables at eating houses, caring for furnaces, etc. The Y. M. C. A. and Y. W. C. A. conduct a free labor bureau, which is at the service of students. Iowa City is a town of 10,000 inhabitants, whose citizens are friendly to the University and take pleasure in affording to deserving students the opportunity to earn their neces-

*The item of tuition is here calculated for the College of Liberal Arts only. Thirty dollars should be added for the College of Law, Medicine, Homeopathic Medicine, and Pharmacy. In the College of Dentistry the Tuition fee is $100, but this includes the Matriculation fee.

sary expenses. It rarely happens that the student who needs it fails to secure steady employment of some kind.

FREE TUITION

Tuition fees may be remitted in the College of Liberal Arts in the case of a student who brings certificates signed by three county officers to the effect that the applicant is an industrious person of good character and entitled to the relief sought on account of pecuniary need. Blank forms for such certificates may be had by addressing the President of the University.

All honorably discharged soldiers or sailors of the Spanish-American war may have twenty dollars of their tuition in any college of the University remitted upon application to the Treasurer of the University.

A. WHITNEY CARR FREE SCHOLARSHIPS

Mr. A. Whitney Carr, of Jordan, N. Y., believing that education in the higher institutions of learning should be as free to every comer as it is in the common schools, and desiring to contribute as far as possible to this end, has generously donated what is known as "The A. Whitney Carr Free Scholarship Fund," for the creation of free scholarships for the benefit of poor and worthy young men and women who are unable to educate themselves without aid, the interest alone to be used for this purpose, the principal to be kept intact.

In accordancewith the broad and generous wish of the founder, the A. Whitney Carr scholarships will be granted, so far as the fund will allow, to all applicants who are poor and worthy in respect to character and intellectual ability, without regard to sex, race, or color.

Scholarships apply to all the years of the college course; are awarded annually; and are liable to be revoked at any time if the recipients are inefficient, or found not to be worthy or justly entitled to them.

The value of each scholarship is at least $20 for each of the four years of the college course. The value will be realized by students in having their tuition and other fees free, the tuition of persons receiving awards being paid from the scholarship fund.

In case the number of scholarships awarded does not exhaust the income of the fund, holders of scholarships who are

crippled or are physically unable to earn the means to pay expenses other than tuition, and are without help from parents or friends, may receive additional assistance at the discretion of those having the disposal of the fund; but this additional assistance is not to exceed $100 a year, save in cases of extreme disablement and destitution, when it may reach the amount of $150 a year.

Scholarships will not be granted to applicants addicted to the use of tobacco or intoxicating liquors.

Scholarships will be awarded by the President of the University and a committee of the faculty of the College of Liberal Arts on the basis prescribed by the founder. A candidate for assistance from this fund must have his application endorsed by the Principal of the preparatory school from which he is accredited to the University, and by at least one other person of prominence familiar with the character and financial circumstances of the applicant.

PRIZES

PICKARD PRIZE—A prize of $20 was offered last year by Dr. J. L. Pickard for the encouragement of extempore speaking to the student in Political Science who was awarded first rank in competitive extemporary debate. A prize of the same value is again offered for this year. The competitive debate will take place early in June.

LOWDEN PRIZES—Frank O. Lowden, Esq., of the class of 1885, offers prizes of the value of $25 each for excellence in Latin, in Greek, in botany, and in geology, and $50 in mathematics.

MAYER PRIZE—Mr. Max Mayer of Iowa City has established a prize of the annual value of $25 for excellence in scholarship and athletics. This prize is open to students of all colleges of the University.

THE LOCAL ALUMNI ASSOCIATION PRIZE—An annual prize of free tuition, $20, is offered to the freshman from Johnson county who passes the best special examination set for this purpose.

LARRABEE PRIZES—Mrs. William Larrabee offers three prizes of $25 each for excellence in scholarship, in Botany, in geology, and in zoology.

OLD ENGLISH PRIZE—The Early English Text Society of London offers one of its texts as a prize for excellence in Old English.

A citizen of Iowa City offers a copy of Gray's Field Manual for the best work in the botany of the spring term.

Mr. Lowden has given $3,000 as an endowment to the Northern Oratorical League. As this University is a member of the League, students are invited to compete and share in the benefits of this endowment.

BRYAN PRIZE—Mr. William Jennings Bryan has established an annual prize of the value of $10 for the best essay on a subject pertaining to the science of government. The prize is open to any student in the University.

HAMILTON CLUB PRIZE—The Hamilton Club of Chicago offers two prizes of the value of $100 and $50 each to the students who win first and second places respectively in the annual Hamilton Club oratorical contest. The contest is open to all students registered in the College of Liberal Arts.

THE COLLEGE OF LIBERAL ARTS

COLLEGE OF LIBERAL ARTS

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.* 608 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth, LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
82 Bloomington St. (108 Liberal Arts)

SAMUEL CALVIN, M. A., 1874, Cornell College; F. G. S. A., PH. D., 1888, Lenox.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

LAUNCELOT WINCHESTER ANDREWS, B. PH., 1875, Yale; M. A., PH. D., 1882, Goettingen.

Professor and Head of the Department of Chemistry, 1885.
251 S. Johnson St. (Chemical Laboratory)

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D., 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and Head of the Department of Philosophy, 1887.
704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor and Head of the Department of Physics, and Secretary of the Faculty of the College of Liberal Arts, 1893.
707 N. Dubuque St. (Hall of Physics

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

LÆNAS GIFFORD WELD, B. S., 1883; M. A , 1885, Iowa.
Professor and Head of the Department of Mathematics, Dean of the Graduate College, and Director of the School of Applied Science, 1886.
612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.
Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1886.
922 E. Washington St. (304 Science Hall)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.
Professor of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.
11 E. Bloomington St. (205 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.
Head of the Department of History, and Professor of American History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.
Professor and Head of the Department of French Language and Literature, 1893. 309 Church St. (120 Liberal Arts.

ALFRED VARLEY SIMS, C. E., 1888, Pennsylvania.
Professor and Head of the Department of Civil Engineering, 1895.
Bloom Terrace. (Engineering Hall)

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.
Professor and Head of the Department of Animal Morphology and Physiology, 1892. 422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.
Professor and Head of the Department of Political Science, 1895.
219 N. Clinton St. (202 Liberal Arts)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.
Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE CALL, B. A., 1880; M. A., 1883, Iowa.
Professor of Greek Language and Literature, 1885
21 N. Dubuque St. (106 Liberal Arts)

THE REV. HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.
Professor of Public Speaking, 1900
308 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.
Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty; 1900.
7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900. 1019 College St. (217 Liberal Arts)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S. School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901. 510 College St. (Armory)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890. 529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH, D., 1895, Yale.

Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900. 222 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.

Professor in Education, and Inspector of High Schools, 1901. 221 Fairchilds St. (216 Liberal Arts)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894. 911 Iowa Ave. (308 Science Hall)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903. 634 Summit St. (106 Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.

Professor of Municipal and Sanitary Engineering, 1886. 804 Summit St. (Engineering Hall)

ARTHUR G. SMITH, B. PH., 1891; M. A., 1895, Iowa.

Professor of Mechanics in the Department of Mathematics, 1893. West Side. (12 Liberal Arts)

JOHN GEORGE CHALMERS, B. A., 1901, Lafayette.

Professor and Director of Physical Training and Athletics, 1903. Bloom Terrace

GEORGE T. FLOM, B. L., 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.

Acting Professor in Charge of Scandinavian Languages and Literatures, 1900. 609 Summit St. (10 Liberal Arts)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.
Assistant Professor of German, 1892.
402 Church St. (102 Liberal Arts)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.
Assistant Professor of Statistics and Economics, 1898.
505 Washington St. (209 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.
Assistant Professor of German, 1898.
225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.
Assistant Professor in French, 1901.
127½ S. Dubuque St. (120 Liberal Arts)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.
Assistant Professor in charge of Electrical and Mechanical Engineering, 1903. 330 N. Linn St. (Armory)

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A., 1880, Iowa.
Lecturer on Education, 1891. Cedar Rapids, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.
Lecturer on Journalism, University Publisher, 1900.
Cedar Rapids, Iowa.

THE REV. GEORGE LUTHER CADY, B. A., 1890, Olivet College.
Lecturer on Sociology, 1900. 725 N. Linn St.

GEORGE HAMPTON BREMNER, C. E., 1883, Iowa.
Lecturer in School of Applied Science, 1903. Chicago, Illinois.

WALTER D. LOVELL, C. E., 1891, Iowa.
Lecturer in School of Applied Science, 1903. Des Moines, Iowa

ARTHUR JOHN COX, C. E., 1891; LL. B., 1895, Iowa.
Lecturer in School of Applied Science, 1903. 104 E. Market St.

FRANK R. RUTTER, B. A., 1894; PH. D., 1897, Johns Hopkins.
Lecturer in Commerce and Statistics, 1904. (219 Liberal Arts)

HERBERT CLIFFORD DORCAS, B. PH., 1895, Iowa; M. A., 1903, Columbia.
Instructor in Education, and University Examiner, 1895.
429 Ronalds St. (218 Liberal Arts)

LOUISE ELIZABETH HUGHES, B. PH., 1878; M. A., 1881; B. A. 1899, Iowa.
Instructor in Latin, 1896. 122 N. Capitol St. (112 Liberal Arts)

CARL LEOPOLD VON ENDE, B. S., 1893; M. S., 1894, Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. 715 N. Gilbert St. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899. 328 N. Linn St. (12 Liberal Arts)

SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900, Johns Hopkins.
Instructor in English, 1900. 209 Fairchild St. (207 Liberal Arts)

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Morphology and Physiology, 1898. 120 E. Market St. (104 Science Hall)

SAM BERKLEY SLOAN, B. A., 1899, Nebraska.
Instructor in English, 1899. 506 N. Linn St. (118 Liberal Arts)

HENRY WALDGRAVE STUART, B. PH., 1895, California; PH. D., 1900, Chicago.
Instructor in Philosophy, 1901. 221 Fairchild St. (209 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902. 120 N. Dodge St. (317 Liberal Arts)

PAUL SKEELS PEIRCE, B. PH., 1897, Cornell; PH. D. 1900, Yale.
Instructor in History, 1902. 1011 Woodlawn (223 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902. 106 Fairchild St. (205 Liberal Arts)

MABEL CLARE WILLIAMS, B. PH., 1899; PH. D., 1903, Iowa.
Instructor in Psychology, 1899. 18 E. Davenport St. (215 Liberal Arts)

WILLIAM E. BECK, B. S. 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900. 518 South Clinton St. (115 Liberal Arts)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A., 1900, Iowa.
Assistant Instructor in English, 1900. 215 Ronalds St. (226 Liberal Arts)

JOHN GABBERT BOWMAN, B. A., 1899, Iowa.
Assistant Instructor in English, 1901
215 Ronalds St. (226 Liberal Arts)

VALBORG KASTMAN,
Assistant Instructor in Physical Training, 1902.
228 N. Capitol St. (5a. Liberal Arts)

HARRIETTE GRACE HOLT, B. PH., 1896, Iowa.
Assistant Instructor in French, 1902.
225 Iowa Ave. (6 Liberal Arts)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E. 1901, Iowa.
Assistant Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

HELEN MAY EDDY, B. A., 1900; M. A., 1903, Iowa.
Teaching Fellow in Latin, 1901. 4 Jefferson St. (112 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896; M. A., 1902, Penn College.
Fellow in English, 1902. 4 Jefferson St. (226 Liberal Arts)

CHARLOTTE MARIE LORENZ, B. A., 1902, Iowa.
Fellow in German, 1902. West Side. (8 Liberal Arts)

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.
Fellow in Zoology, 1902. 318 N. Dubuque St. (305 Science Hall)

WALTER MARTINUS BOEHM, B. S., 1902, Iowa.
Fellow in Physics, 1900. 406 S. Clinton St. (Hall of Physics)

FRED J. SEAVER, B. S., 1902, Morningside College.
Fellow in Botany, 1902. 321 Church St. (206 Science Hall)

JOSEPH HARDING UNDERWOOD, B. A., 1902, Western College.
Fellow in Economics and Statistics, 1902.
120 Davenport St. (205 Liberal Arts)

HENRIETTA DOROTHY PLOCK, B. A., 1901, Iowa.
Fellow in German, 1903. 328 N. Dubuque St. (8 Liberal Arts)

GUY GRIFFIN FRARY, B. S., 1902, Morningside College.
Fellow in Chemistry, 1903. 114 Fairchild St. (Chemical Laboratory)

ROBERT D. KREBS, B. A., 1903, Iowa.
Scholar in Greek, 1903. 128 Bloomington St.

IDA THERESIA SPEIDEL, B. S., 1903, Iowa.
Scholar in Mathematics, 1903. 20 S. Linn St.

ALICE FLORENCE MCGEE, B. PH., 1901, Iowa.
Scholar in French, 1903. 122 Church St. (121 Liberal Arts)

CARL VOLNEY KENT, B. S., 1904.
Scholar in Physics, 1903. 230 Fairchild St. (Hall of Physics)

GRACE HELEN KENT, B. A., 1902, Iowa.
Scholar in Philosophy, 1903. 129 S. Madison St.

ANNA JOHNSON, B. A., 1903, South Dakota.
Scholar in Mathematics, 1903. West Side. (113 Liberal Arts)

JESSE RESSER, B. PH., 1903, Iowa.
Scholar in Public Speaking, 1903. 113 Court St. (312 Liberal Arts)

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di., 1900, Iowa State Normal; B. PH., 1903, Iowa.
Scholar in Sociology, 1903. 220 N. Dubuque St. (204 Liberal Arts)

DANIEL STARCH, B. A. 1903, Charles City College.
Scholar in Philosophy, 1903, 208 Fairchild St. (214 Liberal Arts)

ELIZABETH LEWIS SHERWOOD, B. A., 1891; M. A., 1903, Iowa.
Scholar in English, 1903. 124 Church St.

MAY SHUCK, B. PH., 1900, Iowa.
Scholar in English, 1903. West Side.

HARRY EUGENE ILSLEY, B. S., 1899, Coe College.
Scholar in Geology, 1903. 715 N. Gilbert St. (106 Science Hall

BERTHA BELLE QUAINTANCE, B. A., 1899, Nebraska.
Assistant in English, 1900. 821 Market St.

HARVEY HAYES LOCHRIDGE, B. S., 1901, Beloit.
Assistant in Chemistry, 1901. 313 Ronalds St

MARY SLEIGHT EVERTS.
Assistant in Public Speaking, 1901. 714 N. Linn St.

JOHN CARVILLE.
Assistant in Geology, 1892. 610 Jefferson St. (106 Science Hall)

FRANK DUNN KERN.
Laboratory Assistant in Morphology, 1902. (102 Science Hall)

JOSEF WIEHR.
Assistant in German, 1903. 113 Prentiss St.

RUDOLPH ERNST KLEINSORGE.
Assistant in Physiology, 1903. 425 Iowa Avenue.

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist. 8 College St. (4 Science Hall)

FRANK ROLAND MOLSBERRY.
Band Master, 1903. 8 College St. (Old Armory)

STANDING COMMITTEES OF THE FACULTY OF THE COLLEGE OF LIBERAL ARTS

ADMISSION AND CLASSIFICATION: Professors Wilson, Currier, Macbride, The Registrar, The University Examiner.

CONDITIONED STUDENTS: Professor Nutting, The Registrar, The University Examiner.

COURSES OF STUDY: Professors Currier, Macbride, Weld, Loos, Houser, Shambaugh, Ansley, Bolton, Seashore.

EXECUTIVE: The President, Professors Macbride, Loos.

FIRST YEAR STUDENTS: Professors Plum, Shimek, Sturm.

LIBRARY: The President, Professors Nutting, Andrews, Shambaugh, Fairbanks.

MILITARY: Professors Burnett, Gordon, Smith, Wilder, Chalmers.

PHYSICAL CULTURE OF WOMEN: The Dean of Women, Professors Call, Chalmers.

PREPARATORY SCHOOLS: Professors Brown, Calvin, Sims, Potter, Wickham.

PROGRAMME: Professors Andrews, Flom, Magowan.

RULES: Professors Veblen, van Steenderen, Wells.

SUMMER SESSION: Professors Bolton, Andrews, Wilcox, Ansley, Shimek.

GENERAL PLAN

The College of Liberal Arts offers three general courses of study—Classical, Philosophical, and General Scientific—and three technical courses—Civil Engineering, Electrical Engineering, Mining Engineering. The requirements and lines of work offered are set forth under Courses of Study.

REQUIREMENTS FOR ADMISSION

Applicants for admission to the freshman class in any of the courses of the College of Liberal Arts must be at least sixteen years of age, and must present satisfactory evidence of having completed the preparatory studies specified below. An examination is required of all students who do not present acceptable certificates.

It is expected that the following branches of study will be completed in the grammarsc hool: Practical arithmetic, reading, penmanship, elementary English grammar and English composition, geography, bookkeeping (single entry), physiology (the statutory requirements for primary and grammar schools), United States History (two semesters' work).

In estimating the amount of work required for admission, a *preparatory credit* is regarded as the equivalent of one study daily for a term of eighteen weeks on the basis of four studies a day. Thus eight credits stand for a normal year's work.

For admission to the University thirty preparatory credits are required. No student will be admitted whose deficiences exceed the amount represented by two credits, except as provided in the following paragraph. Candidates having deficiencies not exceeding this limit may be admitted upon condition that they complete their preparatory work within the first year after admission. Students who are admitted with conditions can make them up in the Iowa City Academy or under the direction of private tutors approved by the Faculty.

Applicants for admission to the College of Liberal Arts who present thirty credits in acceptable preparatory subjects but who are deficient in required preparatory work may be admitted as unclassified students. Such students will be required to make up the deficiencies in required preparatory work at once without receiving college credit therefor. When all the entrance requirements have been met, such unclassified students will be transferred to the list of regular candidates for a degree.

Of the thirty preparatory credits required for admission to

any course in this college *seventeen are specific requirements* and *thirteen elective.*

Specific Requirements for Admission to all Courses:

One Foreign Language	4 credits
English	6 credits
History and Civics	2 credits
Algebra	3 credits
Plane Geometry	2 credits

NOTES

1. The reduction of the fixed requirements for admission is made to adapt them to different high school courses *not* as a desirable limit of required work in a preparatory course which ought to be made up of a few subjects consecutively pursued rather than of many subjects carried for a short time. At least English, mathematics and a foreign language should be carried through the entire high school course.

2. Students entering the philosophical course with only two years of a foreign language must carry some one foreign language for two years to fulfil *preparatory requirements*, with university credit, if the full thirty credits are presented for admission; when two years of Latin are offered to fulfil entrance requirement in foreign language it must be continued for two years.

3. Students entering the classical course are expected to present at least eight preparatory credits in Latin.

4. Failure to offer eight credits in Latin for entrance to the classical course or eight credits in foreign language for the philososhical course means the *limitation of electives* in these courses.

5. Students who present no credits in foreign language for admission will be registered as "unclassified students" until they have satisfactorily completed, without university credit, the amount of work laid down in the calendar as constituting two years of preparatory work in some one foreign language. Facilities will be provided for doing this work at the University.

ELECTIVES

The electives presented for admission may consist of additional work in foreign languages to complete the entire thirty

credits, or of additional work of approved character in English, or in history, or in solid geometry, or of work in science as outlined under group V. below. Candidates are advised to present additional work in a foreign language, English, or history, solid geometry, rather than to present the maximum of six semester's work in Science. When additional work in Latin or modern languages is presented as an elective, it is provided that not less than two years be given to some one language, and not less than one year to each additional language that may be offered.

For students entering the classical and philosophical courses failure to offer eight credits in foreign language means the limitation of electives in the University.

THE SUBJECTS REQUIRED OR ACCEPTED FOR ADMISSION

GROUP I—FOREIGN LANGUAGES

In the case of each of the four foreign languages which may be offered for admission a course of study is suggested. What the University demands, however, is proficiency in the subject rather than a particular course of foreign language study, and the courses are outlined simply to indicate how the necessary proficiency may be attained.

1. GREEK—Grammar, Xenophon's *Anabasis* (four books) Homer's *Iliad* (three books).

The preparatory work in Greek should give thorough knowledge of grammatical forms, familiarity with the common rules of syntax, and a considerable working vocabulary. White's *First Greek Book* and Goodwin's *Greek Grammar* are the books recommended for beginners. Exercise in writing Greek should be kept up through the whole preparatory course in order to fix the student's knowledge of vocabulary as well as of grammar, and to place it completely at his command. The work in Homer should give familiarity with peculiar Homeric forms, the commoner words in the Homeric vocabulary, and the meter of the epic.

For the present the University offers a course in beginning Greek, and students coming from high schools where Greek is not taught may offer preparatory credits from the elective group

instead of four credits in Greek. Such students will receive college credit for work in beginning Greek.

2. LATIN—Grammar, Cæsar (four books), Cicero (six orations), Vergil (six books), with Prosody.

Instead of the prescribed Cæsar an equivalent amount of *Viri Romæ* or Nepos will be accepted. It is expected that four of the six required orations of Cicero (The Catiline orations being taken as the standard of length) and four of the six books of Vergil will be read thoroughly, and the remainder rapidly with a view to securing facility in translation. Equivalents in kind will be accepted for any part of the specific requirements. Sight reading should be taught and practiced from the first. An accurate and ready knowledge of grammatical forms and construction and a good vocabulary are of essential importance. Unless the student has acquired this knowledge, he is not prepared for freshman work in Latin.

Exercise in writing Latin, based upon the current reading, ought to be carried through the *entire preparatory course.* An amount equivalent to Collar, Part III, is required for admission.

The Roman pronunciation is used in the University.

3. FRENCH—Grandgent's Essentials of French Grammar or Frazer and Squair's French Grammar, together with van Steenderen's *Quatre Contes de Merimee*, Halévy's *L'Abbe Constantin*, or Mérimèe's *Colomba* will be accepted as a first year's work in French. From the outset careful attention should be paid to pronunciation; the grammatical rules learned should immediately and constantly be applied in written and oral composition, while sight-reading and oral translation are specially recommended.

The second year's work in French should continue the study of French grammar, but mainly by means of the drill afforded by the reading of such authors as Victor Hugo, Lamartine, Dumas pere, Balzac, and Alphonse Daudet. Composition should be continued by means of such a textbook as Francois and Giroud's *Simple French.* The pronunciation of the student should constantly have the careful attention of the teacher.

4. GERMAN—During the first year the work in German should comprise: (1) Careful drill upon pronunciation; (2) the memorizing and frequent repetition of easy colloquial sentences; (3) drill upon the rudiments of grammar, that is, upon the inflections of the articles, of such nouns as belong to the

language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs, also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word order; (4) abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; (5) the reading of from seventy-five to one hundred pages of graduated texts.

During the second year the work should comprise: (1) The reading of about one hundred and fifty pages of literature in the form of easy stories and plays; (2) accompanying practice in the translation into German of easy variations upon the matter read; (3) continued drill upon the rudiments of the grammar.

For a fuller statement of the work to be done and for suggestions as to the methods and available texts, the teacher is referred to Section VII of the *Report of the Committee of Twelve of the Modern Language Association of America*, which has been issued in a convenient form by Messrs. D. C. Heath & Co. This report should be in the hands of every teacher of modern languages.

GROUP II—ENGLISH

5. ENGLISH—Applicants for admission to the College of Liberal Arts are required to present at least six semester credits in English. Other credits in English may be presented as electives. If six credits only are offered in the subject, they should be as follows:

a. Composition and Rhetoric....2 2-5 credits

Proper preparation for this requirement includes constant practice in writing, with careful correction and revision of themes. A part of the time should be devoted to the study of some good text-book. Text-books suggested are: Herrick and Damon's *Composition and Rhetoric;* Hill's *Beginnings of Rhetoric and Composition;* Kavana and Beatty's *Composition and Rhetoric;* Keeler and Davis's *Studies in English Composition;* Lewis's *Inductive Lessons in Rhetoric;* Lockwood and Emerson's *Composition and Rhetoric;* Merkley's *Modern Rhetoric;* Newcomer's *Elements of Rhetoric;* Scott and Denney's *Composition Rhetoric;* Smith-Thomas's *Complete Course;* Webster's *English; Composition and Literature.*

b. Literature.....3 3-5 credits

Throughout the high school course much attention should be paid to English and American Literature. Entire master-pieces suited to the attainments of the class should be carefully studied. In addition, collateral reading should be assigned and written reports required. Among the master-pieces should be those suggested in the "uniform college entrance requirements" in English. For 1904 and 1905 these are as follows:

(1) For careful study:

Burke's Speech on *Conciliation with America;* Macaulay's Essays on *Milton* and *Addison;* Milton's Minor Poems; Shakespeare's *Macbeth.*

(2) For general reading:

Addison's Sir Roger de Coverley Papers; Coleridge's *The Ancient Mariner*; Eliot's *Silas Marner;* Goldsmith's *The Vicar of Wakefield;* Lowell's *The Vision of Sir Launfal;* Scott's *Ivanhoe;* Shakespeare's *The Merchant of Venice;* Shakespeare's *Julius Cæsar;* Tennyson's *The Princess.*

During the last year of the course a good outline history of English Literature, such as Halleck's, Painter's, Pancoast's, Scudder's, or Simonds's, should be carefully studied.

For the study of American Literature, text-books suggested are: Noble's *Studies in American Literature;* Matthew's *Introduction to American Literature*; Newcomer's *American Literature;* Pancoast's *American Literature.*

The requirements in English are in harmony with the report of a committee representing the colleges and secondary schools of Iowa. This committee recommends to secondary schools the following course of study in English, the figures indicating the number of recitation periods each week:

FIRST YEAR

First Semester	*Second Semester*
Composition and Rhetoric—3	Composition and Rhetoric—3
English Classics—2	English Classics—2

SECOND YEAR

Composition and Rhetoric—2	Composition and Rhetoric—2
English Classics—3	English Classics—3

THIRD YEAR

Composition and Rhetoric—1	Composition and Rhetoric—1

English Classics – 4	English Grammar—4

FOURTH YEAR

Composition and Rhetoric—1	Composition and Rhetoric—1
History of English Literature and Study of English Classics—4	History of English Literature and study of English Classics—4

The expression "English Classics" as used in this outline means classics written in English. American literature is of course not excluded.

The extract from the report of the committee follows:

"Although the colleges require but three years's work in English for admission to the freshman class, the committee strongly recommends that all four year high schools offer a four year course in English and that all graduates from these high schools take the entire course. However, in the case of pupils who are especially proficient in English or who are doing more than four years's work in foreign language, the work of the third year may be omitted. Pupils who are preparing for college should be careful to include in their reading all the classics indicated as belonging to the list of readings for entrance to college.

GROUP III—HISTORY, CIVICS, AND ECONOMICS

6. HISTORY—At least two semesters' work should be presented in history. One semester's work in civics will be accepted in partial fulfilment of this requirement. The course of study and available text-books should be selected from the following: First semester, *History of Greece* (Oman, Smith, Cox, or Meyers); second semester, *History of Rome* (Allen, Morey, Smith, or Meyers); third semester, *History of England* (Larned, Montgomery, or Gardiner); or *The History of the United States* (Channing, Thomas, Fiske, Johnston, Montgomery, McMaster, or McLaughlin); fourth semester, *The History of the United States*, or *Civil Government* (Fiske's *Civil Government*, or Andrew's *Manual of the Constitution*).

Instead of the first two semesters' work in history indicated above, which is preferred, the University will accept for the present two semesters' work in general history from one of the following text-books: Meyers, Fisher, Freeman, or Colby.

7. CIVICS—As indicated in the preceding paragraph at

least one semester's work should be presented in civics, following where possible, elementary work in the grammar school. This work in civics should preferably follow at least a part of the work in history. (Fiske's *Civil Government*, or Andrew's *Manual of the Constitution*).

8. ECONOMICS—(a) A half year's work on the Principles of Political Economy as presented in the following textbooks will be accepted: J. Laurence Laughlin's *Elements of Political Economy* (American Book Co.); Francis A. Walker's *First Lesson in Political Economy* (Henry Holt & Co.); or (b) Industrial History and the Elements of Economic Theory studied on the basis of an outline like Henry W. Thurston's *Economics and Industrial History for Secondary Schools* (Scott, Foresman & Co.); or Frederick R. Clow's *Introduction to the Study of Commerce* (Silver, Burdette & Co.).

GROUP IV—MATHEMATICS

9. ALGEBRA—The algebra of the high school should comprise a careful study of the following topics: signs and symbols; fundamental operations; factoring (including lowest common multiple and highest common divisor); fractions; simple and quadratic equations; theory of exponents (including negative and fractional exponents and radicals); progressions. Especial attention should be given to such salient points as the significance of the minus sign, factoring, theory of exponents, equations, and the formal statement of algebraic problems. The interpretation of algebraic results with their graphical representation should be introduced at the earliest possible stage and constantly insisted upon.

Three credits, representing at least one and a half years' work with daily recitation, are required in algebra.

10. GEOMETRY—Plane geometry is required for admission to all courses. Provision is made for teaching solid geometry in the University but preparatory credit will be allowed for the work if completed in the high school. University credit can be earned only by special examination.

In beginning the study of geometry the "heuristic" method is recommended (see Hopkin's *Manual of Plane Geometry*, D. C. Heath & Co.; Spencer's *Inventional Geometry*, American Book Co.; Campbell's *Observational Geometry*, Harper & Brothers). Whatever method is used, the pupil should be pro-

vided with adequate drawing instruments and should construct and verify all of his positions and theorems. Geometric processes and results should be expressed by algebraic symbols whenever possible. Original investigations should not simply be encouraged, but should be insisted upon as a matter of course. The eminently practical side of the study of geometry is not to be lost sight of, but the work should be so arranged that it may be of the highest disciplinary value. The language of all geometrical exercises should be exact.

Two credits, representing at least one year's work with daily recitation are required in plane geometry. A third semester may be devoted to solid geometry.

11. ARITHMETIC—The work in arithmetic should in general be completed in the grammer grades. A half year's work in arithmetic and review algebra may be done with great profit in the high school after the completion of the required work in algebra and geometry. Not only will a general review of the subject be found beneficial in itself, but the higher point of view now attainable may be taken advantage of in many ways.

In addition to the five credits in algebra and geometry, one credit for advanced work in arithmetic, and one credit for work in bookkeeping (by double entry) will be accepted as part of the elective credits.

It is desirable that the high school work in mathematics be not finished until the end of the course, in order that there may be no break in the continuity of the work between the high school and the University.

GROUP V—SCIENCE

Work in the sciences named below will be accepted in partial fulfilment of the requirements for admission, provided that the student has given to each subject offered not less than the time indicated in the table below. The subjects are arranged in order of preference.

Beginning with September, 1904, two semesters' work in chemistry with adequate laboratory facilities and regular laboratory work by the pupils will be required for credit.

1. Physics, 36 weeks;
2. Botany, 18 weeks;
3. Physical Geography, 18 weeks;
4. Physiology, 18 weeks;
5. Chemistry, 36 weeks;
6. Zoology, 18 weeks.

12. PHYSICS—One of the chief aims of the course in phys-

ics should be to train pupils in accurate and impartial observation, and to develop independent judgment rather than to impart knowledge of a large number of facts. Constant use should be made of problems in which the pupil may apply the mathematics he has already mastered.

The competent teacher will know how to make valuable use of simple apparatus, such as can be made or procured at home; but the subject cannot be satisfactorily presented without some special instruments, and these should be of modern design and good workmanship. In all schools there should be a supply of such appliances as will enable the teacher to present to the class in a successful manner the more interesting demonstrations of phenomena and laws.

Among the good text-books and manuals are: Carhart and Chute's *Elements of Physics* (Allyn & Bacon); Geo. A. Hoadley's *A Brief Course in Physics* (American Book Co.); Charles B. Thwing's *An Elementary Physics* (Benj. H. Sanborn & Co.); Rowland and Ames's *Elements of Physics* (American Book Co.); Hall & Bergen's *A Text Book of Physics* (Henry Holt & Co.).

One full year should be given to the study of physics. Of this time not less than one-half should be devoted to experiments and observations by the pupil.

13. BOTANY—The aim should be to make pupils familiar with the local flora, especially in its economic aspects. The habit of accurately observing and then carefully recording should be established from the first. Probably a carefully kept note book will be found much better than an herbarium.

The following text-books are suggested as suitable for the guidance of study in elementary botany: Macbride's *Lessons in Elementary Botany* (Allyn and Bacon); Coulter's *Plant Relations* (D. Appleton & Co.); Barne's *Outlines of Plant Life* (Henry Holt & Co.); Bailey's *Lessons with Plants* (The Macmillan Co.); Leavitt's *Outlines of Botany* (The American Book Co.); Coulter's *Plant Structures* (D. Appleton & Co.); Atkinson's *Elementary Botany* (Henry Holt & Co.); Steven's *Introduction to Botany* (D. C. Heath & Co.).

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations or exercises per week for half the school year.

14. PHYSICAL GEOGRAPHY – The pupil should gain a knowledge of the simpler facts and principles of the mathematical geography, such as the relations of the members of the solar system, the form and movements of the earth, the phases of the moon, etc.; the atmosphere, the atmospheric phenomena, such as winds, temperature, precipitation, etc., and their causes; the evolution of the land forms, including the modifying agencies and their mode of operation; the ocean, its movements, their causes, their effects upon climate and life; the life of the ocean; the effect of climate and topography on human activity, etc.

The following text books are recommended; Dryer's *Lessons in Physical Geography* (American Book Co.); *Introduction to Physical Geography*, by Gilbert & Brigham (Appletons); *Elementary Physical Geography*, by W. M. Davis (Ginn & Co.); *Physical Geography*, by W. M. Davis (Ginn & Co.); *Elementary Lessons in Physical Geography*, by A. Geikie (The Macmillan Co.); *Elementary Physical Geography*, by R. S. Tarr (The Macmillan Co.); The *Topographic Atlas of the United States, Physiographic Types*, Folios I, II, and III, published by the United States Geological Survey, at twenty-five cents each, are very valuable for class exercises. The following books are excellent for reference: *The Teaching of Geography*, by A. Geikie (The Macmillan Co.); *The Realm of Nature*, by R. H. Mill (Chas. Scribner's Sons); *Earth Sculpture*, by Jas. Geikie (G. P. Putnam's Sons); *Geography of the Region of Devil's Lake and the Dalles of the Wisconsin*, by R. D. Salisbury and W. W. Atwood, published by the Wisconsin Geological Survey, E. A. Birge, Director, Madison, Wisconsin; *Government maps for use in Schools*, by Davis, King, and Collie (Henry Holt & Co.); the county reports published by the Iowa Geological Survey will furnish valuable aid in field work. The local field should be used for illustration as far as possible. Maps, globes, physiographic models, etc., are indispensible to the efficient teaching of this subject. The Rand-McNally Company of Chicago, publishes an excellent series of physical maps of the continents and oceans.

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations or exercises per week for half the school year.

15. PHYSIOLOGY — For preparation in physiology, the method of study should combine certain work of a practical

nature with lessons from the text-book. This practical work should embrace the observation of general physiological phenomena through experiments so simple that the pupil can make most of them, supplemented by demonstrations in anatomy and microscopy carefully prepared by the teacher. Expensive apparatus is not only unnecessary for this work, but it is really out of place. Even the microscope should be used only as an occasional accessory to what the pupil may observe with unaided vision. The keeping of notes and sketches, recording clearly and systematically the more important observations, should accompany the course throughout.

The following text-books are recommended as indicating the scope of acceptable preparatory work: Colton's *Physiology, Briefer Course* (D. C. Heath & Co.); Martin's *Human Body, Briefer Course*, revised by Fitz (Henry Holt & Co.); Blaisdell's *Practical Physiology* (Ginn & Co.); Foster & Shore's *Physiology for Beginners* (The Macmillan Co.); Macy's *Physiology for High Schools* (American Book Co.).

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations and laboratory exercises per week for half the school year.

16. CHEMISTRY—Emphasize facts rather than theories. Great care should be taken that pupils are not left with the impression that formulas or equations control the phenomena instead of being merely their expression. Laboratory work is regarded as essential to an understanding of the subject. The experiments should be simple, and the inferences from them as direct as possible. Any arrangement in schedule form, with headings for "observations," "conclusions," and the like, tends to deaden thought rather than to arouse it. No credit will be given for work in this branch in schools where there is no laboratory whatever. Chemistry should be omitted from the high school course except in those schools where adequate laboratory facilities are available for individual laboratory work continuing throughout one year. *Elements of Chemistry*, by Paul C. Freer (Allyn & Bacon); *Elements of Chemistry*, by Ira Remsen (Henry Holt & Co.); *Elements of Inorganic Chemistry*, by J. H. Shepard (D. C. Heath & Co.), are recommended as suitable text-books for use in secondary schools.

Beginning with September, 1904, the minimum time to be

devoted to chemistry in order to receive credit should be one year of daily laboratory work.

17. ZOOLOGY—Elementary zoology should deal principally with the easily ascertained facts concerning some few animal forms. It is therefore recommended that the general anatomy and life histories of some typical groups of animals be made the subject of the study, and that the aim be the acquisition of the habit of correct observation and a definite knowledge concerning a few animals, rather than the learning of classification and a superficial knowledge of the animal kingdom as a whole.

Directions for laboratory work are found in most text-books. Money for this purpose should be expended in plain but convenient tables, good dissecting microscopes, and a few cheap tools rather than in expensive compound microscopes.

Pupils should be induced to examine carefully, and to make the most of each specimen. They should be encouraged to ask questions, and to find the answer for themselves as far as practicable.

The following text-books indicate the character and extent of the preparatory work in zoology which will be accepted: *Practical Zoology*, Colton (D. C. Heath & Co.); *School Zoology*, Burnet (American Book Co.); *Lessons in Zoology*, Needham (American Book Co.); *Animal Life*, Jordan (D. Appleton & Co.).

The minimum time to be devoted to zoology in order to receive credit for admission to the University should be one hour's laboratory work daily for a half year. This should be supplemented by field work and reading under the direction of the teacher.

EXAMINATION FOR ADMISSION

Applicants presenting proper certificates from accredited schools showing that they have completed the preparatory studies required for admission, as specified above will be admitted without examination*. These certificates are to be made out on blank forms which will be furnished on application to the President of the University, and they must contain specific statements as to the amount of work done in each study. Delay in matriculation will be avoided if these certificates are made out and forwarded to the University before September 1.

*For admission as unclassified students see page 98.

At other high schools and in places where academies or other private schools are situated, the University is prepared to hold examinations during the third week in June. The successful candidates will receive certificates admitting them to the University.

Applicants presenting certificates from accredited schools for work not fully meeting the requirements for admission, will be examined on the subjects in which they are deficient.

If an applicant for admission by certificate has completed the prescribed amount of preparatory work in certain branches of study in considerably less time than that indicated as being necessary under ordinary conditions, the University reserves the right to examine him in such branches of study.

All other applicants will be examined in the various subjects required for admission before being admitted as students in the University.

Any person expecting to enter the College of Liberal Arts is advised to learn before the opening of the semester exactly what entrance examinations he will be required to pass. He can learn this by addressing the President, or the University Examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the University Examiner, who will give all necessary directions.

For *each separate* examination given at any other time than that announced in the programmes which follow, a fee of *one dollar* will be charged by the University. For a *series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

Students who have not been able to prepare to meet the requirements of the University, or students who are conditioned, will find in the public and private schools in Iowa City excellent opportunities to bring up their preparatory work or to remove their conditions.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 19, to Wednesday, September 21, 1904

Greek,	2 to 4 credits, Monday,	1:30 p. m.
Latin,	2 to 8 credits, Monday,	3:30 p. m.
French,	2 to 4 credits, Monday,	1:30 p. m.
German,	2 to 4 credits, Monday,	3:30 p. m.
English and English Grammar,	2 credits, Tuesday,	4:30 p. m.
Literature,	2 credits, Tuesday,	8:00 a. m.
General History,	2 credits, Tuesday,	9:30 a. m.
English History,	1 credit, Tuesday,	11:00 a. m.
United States History,	1 credit, Tuesday,	1:30 p. m.
Civics,	1 credit, Tuesday,	2:30 p. m.
Economics,	1 credit, Tuesday,	3:30 p. m.
Algebra,	3 credits, Wednesday,	8:00 a. m.
Plane Geometry,	2 credits, Wednesday,	9:30 a. m.
Physical Geography,	1 credit, Wednesday,	11:00 a. m.
Physics,	2 credits, Wednesday,	1:30 p. m.
Botany,	1 credit, Wednesday,	3:00 p. m.
Physiology,	1 credit, Wednesday,	4:00 p. m.

SECOND SEMESTER

Thursday, February 9, to Saturday, February 11, 1905

The examinations will be held at the same hours as in the programme above, reading Thursday, Friday, and Saturday for Monday, Tuesday, and Wednesday, respectively.

ADVANCED STANDING

Students from approved colleges bringing proper certificates of work and standing will be admitted without examination. In determining their position in the University, however, the value of the work done will be measured by the University standards.

Students coming from colleges whose requirements for admission are substantially those of the University will be admit-

ted ordinarily to equal rank, *provided they enter not later than the beginning of the senior year.* The assignment of studies will be at the discretion of the faculty.

Graduates of the four years' course of the Iowa State Normal School will be given advance standing of sixty semester hours without examination and will be required to spend two years at the University before receiving a degree.

The requirement that all applicants for admission to the University must bring certificates showing that they have completed two years' work in some one foreign language applies also to applicants for advanced standing.

COURSES OF STUDY

CLASSICAL COURSE

FRESHMAN YEAR

Greek.....5 hours
*Mathematics.....4 hours
Latin.....4 hours
English.....2 hours

SOPHOMORE YEAR

Greek.....5 hours
English.....3 hours
Elective (not more than five hours in one department).....7 or 8 hours

In the *Junior* and *Senior* years, all work is elective except that at least one year of French or German must be taken before graduation. Of the possible electives in this course forty semester hours must be chosen from the departments of Education, History, Languages and Literatures, Philosophy, Political Economy and Sociology, Political Science, and Public Speaking.

PHILOSOPHICAL COURSE

FRESHMAN YEAR

Required—English.....2 hours

Elective, from 12 to 14 hours must be selected from the following: Greek, 5 hours; German, 5 hours; French, 5 hours; Latin, 4 hours; Mathematics or Physics, 4 hours; History, 4 hours. Four hours *must* be chosen from the Languages but not more than nine hours and of Mathematics and Physics either but not both may be elected.

*Students may substitute Physics for Mathematics by permission of the Dean.

SOPHOMORE YEAR

English (required).....3 hours

All other work for this year and the *Junior* and *Senior* years is elective, except that forty-five semester hours of the 90 hours required in these three years must be chosen from the departments of Education, History, Languages and Literatures, Philosophy, Political Economy and Sociology, Political Science, and Public Speaking.

GENERAL AND SPECIAL COURSES IN THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE

To guide students who propose to elect all or a considerable portion of their undergraduate work in the School of Political and Social Science a general course in political and social science is here announced in which the specific requirements for the degree of B. A. and the degree of B. Ph. are respectively indicated; other parts of the course are in the nature of advice and suggestion.

FRESHMAN YEAR: If candidate for B. A.—Greek 5 hours, Latin 4, English 2, Mathematics 4. Or, if candidate for B. Ph.—English 2 hours, and from 12 to 14 hours selected from the following: Greek, Latin, German, French, (from 4 to 9 hours, not exceeding five hours in any one), History 4, and [Mathematics or a material science] 4. SOPHOMORE YEAR: English 3, Elective—eight hours in Economics, Politics, and History; and Greek 5 (if candidate for B. A.) or [Public Speaking 2, and free elective 3] 5, or free elective 5, (if candidate for B. Ph.). JUNIOR AND SENIOR YEARS: A large part or all of the work of these years may be taken in Political and Social Science. Students should advise with heads of departments or with the Director of the School of Political and Social Science concerning the order and grouping of their electives.

For details concerning the special courses of study in commerce, administration, statistics, modern history, and practical philanthropy, offered by the School of Political and Social Science, the separate announcements of that school must be consulted. These special courses are open to juniors and seniors. The special courses outlined are based on the group principle of election. Students may, in consultation with heads of departments, group their electives with special reference to some definite line of inquiry or in preparation for some definite pursuit.

GENERAL SCIENTIFIC COURSE

FRESHMAN YEAR

	FIRST SEMESTER	SECOND SEMESTER
German or French	5 hours	5 hours
Mathematics	4 hours	4 hours
Elective in Science	4 hours	4 hours
English or Drawing	2 hours	2 hours
	15 hours	15 hours

SOPHOMORE YEAR

German or French	3 hours	3 hours
English	3 hours	3 hours
Elective (at least eight hours in science, not more than five in one department)	9 or 10 hours	9 or 10 hours
	15 or 16 hours	15 or 16 hours

JUNIOR AND SENIOR YEARS—Elective

In the entire course, forty-eight semester hours of science are required, eight of which must be physics, this subject to be taken during either the freshman, sophomore, or junior year.

At least ten hours of English are required.

NOTE—The student who wishes, in his undergraduate course, to specialize in some particular line of scientific study, should early choose from the group of sciences open to him (botany, zoology, animal morphology, geology, chemistry, physics, mathematics, and astronomy), that subject most directly connected with the branch to which he wishes to give special attention. He will thus be able to pursue his chosen study without interruption for a number of years, the last of which may, if he so choose, be devoted entirely to his specialty.

Such extreme specialization is not recommended to undergraduate students, it being the opinion of the faculty of the College of Liberal Arts that a better preparation for a scientific career will be afforded by a broader and more liberal course of study. However, those wishing to specialize in any branch of science are urged to confer freely with the professors with whom they expect to pursue such study.

COURSE IN CIVIL ENGINEERING

FRESHMAN YEAR

	FIRST SEMESTER	SECOND SEMESTER
German or French 1 (2)	5 hours	5 hours
Mathematics (First Year)	4 hours	4 hours
Physics 1 (2)	4 hours	4 hours
Drawing 1 (2)	2 hours	2 hours
	15 hours	15 hours

SOPHOMORE YEAR

Surveying and Mapping 3	5 hours	
Chemistry 1	4 hours	
English 1 (2)	2 hours	2 hours
Mathematics (Second Year)	4 hours	4 hours
Geology 1 (2)	2 hours	2 hours
Earthwork and Railway Curves 5		2 hours
Descriptive Geometry and Topographical Surveying 4a, b		4 hours
Shopwork 6		2 hours
	17 hours	16 hours

JUNIOR YEAR

Electrical Engineering 7	3 hours	
Shopwork 7	2 hours	
English 21 (22)	3 hours	3 hours
Mechanics 75 (76)	4 hours	4 hours
Graphics 9 (10)	2 hours	4 hours
Stresses 11 (12)	3 hours	3 hours
Engineering Jurisprudence		2 hours
	17 hours	16 hours

SENIOR YEAR

Limes and Cements 13	2 hours	
Economics	2 hours	
Steam Engine 107	3 hours	
Sanitary Engineering 17	2 hours	
Designing 19 (20)	4 hours	3 hours
Civil Engineering 21 (22)	3 hours	3 hours
Laboratory 23 (24)	2 hours	2 hours
Water Supply 30		2 hours
Hydraulics 28		3 hours
Resistance of Materials 90		2 hours
Engineering Society or Thesis		2 hours
	18 hours	17 hours

COURSE IN ELECTRICAL ENGINEERING

FRESHMAN YEAR

	FIRST SEMESTER	SECOND SEMESTER
German 1 (2), or French 1 (2)	5 hours	5 hours
Mathematics (First Year)	4 hours	4 hours
Physics 1 (2)	4 hours	4 hours
Mechanical Drawing 1 (2)	2 hours	2 hours
English 1 (2)	2 hours	2 hours
	17 hours	17 hours

SOPHOMORE YEAR

Mathematics (Second Year)	5 hours	5 hours
Chemistry 1 (2)	4 hours	4 hours
Shopwork 7 (See Civil Engineering)	2 hours	2 hours
Machine Drawing	1 hour	1 hour
English 21	3 hours	
Physical Measurements 3 (4)	3 hours	3 hours
Electricity and Magnetism (2)		2 hours
	18 hours	17 hours

JUNIOR YEAR

Mechanics 75 (76)	4 hours	3 hours
Electricity (Fundamental principles and theory, and direct current machinery 5 (6)	3 hours	3 hours
Electrical laboratory (elementary) 3 (4)	2 hours	2 hours
Chemistry (Quantitative analysis and physical chemistry)	3 hours	3 hours
English 22		3 hours
Steam Engineering and Thermo-Dynamics 107	3 hours	
Hydraulics 28		3 hours
Machine Design and Mechanism	2 hours	1 hour
	17 hours	18 hours

SENIOR YEAR

Political Economy and Engineering Jurisprudence	2 hours	2 hours
Advanced Electrical Laboratory 11 (12)	3 hours	3 hours
Theory and Application of Alternating Currents 9 (10)	5 hours	5 hours
Thesis 13 (14)	2 hours	2 hours
Elective	4 hours	4 hours
	16 hours	16 hours

COURSE IN MECHANICAL ENGINEERING

The first two years are the same as in electrical engineering.

JUNIOR YEAR

	FIRST SEMESTER	SECOND SEMESTER
Mechanics 75 (76)	4 hours	3 hours
Electricity 5 (6)	3 hours	3 hours
Electrical Laboratory 3	2 hours	
English 22		3 hours
Chemistry (Quantitative and Fuel Analysis)	3 hours	3 hours
Steam Engineering 101 (102)	3 hours	3 hours
Mechanical Laboratory		2 hours
Machine Design and Mechanism	2 hours	1 hour
	17 hours	18 hours

SENIOR YEAR

Political Economy and Engineering Jurisprudence	2 hours	2 hours
Theory and Application of Prime Movers 109 (110)	5 hours	5 hours
Thermo-Dynamic and Hydraulic Laboratory 111 (112)	3 hours	3 hours
Thesis 113 (114)	2 hours	2 hours
Elective	4 hours	4 hours
	16 hours	16 hours

COURSE IN MUNICIPAL AND SANITARY ENGINEERING

FRESHMAN YEAR

	FIRST SEMESTER	SECOND SEMESTER
German 1 (2), or French 1 (2)	5 hours	5 hours
Mathematics (First Year)	4 hours	4 hours
Physics 1 (2)	4 hours	4 hours
Drawing 1 (2)	2 hours	2 hours
English 1 (2)	2 hours	2 hours
	17 hours	17 hours

SOPHOMORE YEAR

Mathematics (Second Year)	4 hours	4 hours
Chemistry 1 (2)	4 hours	4 hours
Surveying, Mapping and Lettering, 3	5 hours	
Descriptive Geometry and Topographical Surveying 4a, b		4 hours
Earthwork and Railway Curves, 5		2 hours
English 21 (22)	3 hours	3 hours
	16 hours	17 hours

JUNIOR YEAR

Mechanics 75 (76)	4 hours	4 hours
Graphics 9 (10)	2 hours	4 hours
Theory of Stresses 11 (12)	3 hours	3 hours
Chemistry 21 (22)	4 hours	4 hours
Electrical Engineering 7	3 hours	
Hydraulics 28		3 hours
Economics	2 hours	
	18 hours	18 hours

SENIOR YEAR

Limes and Cements 13	2 hours	
Steam Engineering and Thermo-Dynamics 107	3 hours	
Sewerage and Sanitation 17	2 hours	
Engineering Jurisprudence		2 hours
Structural Designing 19	3 hours	
General Biology 1 (2)	2 hours	2 hours
Bacteriology 21 (22)	1 hour	1 hour
Roads and Pavements (42)		2 hours
Water Supply Engineering 30		2 hours
Resistance of Materials 90		2 hours
Sanitary inspection, design and construction, 52		3 hours
Elective (Geology 1 (2) recommended)	2 hours	2 hours
Thesis	2 hours	2 hours
	17 hours	18 hours

COURSE IN MINING ENGINEERING

FRESHMAN YEAR

	FIRST SEMESTER	SECOND SEMESTER
Foreign Language	3 hours	3 hours
Mathematics (First Year)	4 hours	4 hours
Physics 1 (2)	4 hours	4 hours
Chemistry 1 (2)	4 hours	4 hours
Mechanical Drawing 1 (2)	2 hours	2 hours
	17 hours	17 hours

SOPHOMORE YEAR

English 1 (2)	2 hours	2 hours
Mathematics (Second Year)	4 hours	4 hours
Geology 1 (2)	2 hours	2 hours
Quantitative Analysis 3 (4)	4 hours	4 hours
Physical Measurements 4		4 hours
Surveying 3	4 hours	
Mine and Topographical Surveying, 4b		2 hours
Drawing	2 hours	
	18 hours	18 hours

JUNIOR YEAR

Mechanics 75 (76)	4 hours	4 hours
Mineralogy 31 (32)	4 hours	2 hours
Metallurgy 30		4 hours
Electrical Engineering 7	3 hours	
Electrical Laboratory 8		2 hours
Theory of Stresses 11	3 hours	
Shopwork 7	2 hours	
Hydraulics 28		3 hours
Briquetting 42		1 hour
Political Economy and Engineering Jurisprudence	2 hours	2 hours
	18 hours	18 hours

SENIOR YEAR

Mining Engineering: Excavation and tunnelling, design of mine plant, etc 39	5 hours	
Mining Engineering: Timbering, ventilating, mine administration, etc. 40		5 hours
Ore Deposits 33 (34)	2 hours	2 hours
Ore Dressing 35	2 hours	
Petrology 11	2 hours	
Electro-Chemistry 8		3 hours
Assaying 26		2 hours
Metallurgy 27 (28)	2 hours	2 hours
Steam Engine 107	3 hours	
Elective	2 hours	2 hours
Thesis		2 hours
	18 hours	18 hours

Summer field work, after sophomore and junior years, six weeks each.

*MILITARY SCIENCE AND TACTICS

Instruction in these branches both theoretical and practical is required of male students in the College of Liberal Arts except such as are specially excused.

*For specific requirements and all particulars consult "Military Science," and "Physical Training" in this announcement.

PHYSICAL TRAINING

Physical Training for women is required of all women in the Freshman and Sophomore classes. Instruction is provided by the University without expense to students.

REGULAR STUDENTS

All students, except as provided under "unclassified students," must elect one of the courses of study outlined above and follow it as laid down in the order as prescribed, carrying not more than sixteen and not less than fourteen hours of lectures or recitations a week except as required by the programme of their course, or permitted by the faculty.

UNCLASSIFIED STUDENTS

1. Persons twenty-one years of age, not candidates for a degree, may be admitted as unclassified students without examination, and may pursue studies at the discretion of the faculty on the recommendation of the professors in charge of the subjects chosen.

2. Such students of the professional colleges as are allowed to carry additional work in this college, not candidates for a degree in this college, will be recorded as "unclassified." If students of either of these classes become candidates for a degree in the College of Liberal Arts, they will be required to furnish evidence, by examination or acceptable certificate, of having completed the preparatory requirements.

3. Persons under twenty-one years of age not candidates for a degree, admitted to the college without conditions, whose reasons for irregular work are approved by the faculty, may be registered as unclassified.

4. Students may be recorded as unclassified, who present thirty credits for admission, but have not completed the *required* preparatory work. They will be required to make up their deficiencies without delay, and when the deficiencies have been made up they will be transferred to the list of candidates for a degree.

Unclassified students are subject to the same requirements as regular students as to amount of work to be carried, examinations, and scholarship.

COMBINED LIBERAL ARTS AND PROFESSIONAL COURSES

COMBINED LIBERAL ARTS AND LAW COURSE

Students of the College of Liberal Arts who have completed their junior year and are entitled to senior standing at the beginning of the University year may be enrolled in the College of Law and receive credit for one year's time of law study while completing their senior year in the College of Liberal Arts, by complying with the following conditions: They must schedule for five hours a week in the College of Law in the subjects of the first year, given throughout the year at 9 o'clock; and for five hours of prescribed electives and five hours of free electives in the College of Liberal Arts. The five hours of prescribed electives must be courses in the College of Liberal Arts approved by a joint committee of the College of Liberal Arts and the College of Law from the group of subjects embracing political and social science, including political and institutional history. Students thus scheduled and earning credit for elements of jurisprudence, international law, and constitutional law in the College of Liberal Arts are excused from elementary law, international law and constitutional law, except constitutional limitations, as given in the College of Law, and the grades made by students in such subjects in the College of Liberal Arts will be accepted as credits in the College of Law. Students of this course must, however, with the exception of the absolute equivalents above enumerated, pass examination in all the subjects of the law course prior to graduation. It is further provided that the student who has gained a time equivalent of ten semester hours by carrying extra work during his second and third years, or by attendance upon summer sessions of the University, may schedule for ten hours of Law and five hours of Liberal Arts work subject to the rules of the University governing permission to carry extra work. The ten semester hours of credit allowed in the College of Liberal Arts for work done in the College of Law will be granted only to those who have registered in the combined course and conformed to its conditions.

Students in the College of Law not candidates for a Liberal Arts degree may take work in the College of Liberal Arts not to exceed five hours per week so long as they maintain a good standing in their law studies and do this elected work to the satisfaction of the professors in charge.

COMBINED COURSE IN THE COLLEGE OF LIBERAL ARTS (SCIENTIFIC COURSE) AND THE COLLEGES OF MEDICINE AND HOMEOPATHIC MEDICINE

First Year

German—5
Mathematics—4
Physics—4
English or Drawing*—2

Second Year

German—3
English—3
Chemistry—4
Zoology—4
Animal Physiology—3

Third Year

Botany—4
Chemistry—2
Animal Morphology (adv.)—4
Elective in College of Liberal Arts—5

Fourth Year

Medical work exclusively

Fifth Year

Medical work exclusively

Sixth Year

Medical work exclusively

Seventh Year

French—10 semester hours
Elective in College of Liberal Arts—10 semester hours

It is deemed possible for students of marked ability to complete this course in six years by taking one year's work in French and one year's work in an elective in the College of Liberal Arts, in addition to the medical work in the fifth and sixth years of the combined course, or where practicable.

COMBINED COURSE IN THE COLLEGE OF LIBERAL ARTS (SCIENTIFIC COURSE) AND THE COLLEGE OF DENTISTRY

First Year

German—5
Mathematics—4
Physics—4
English or Drawing*—2

Second Year

German—3
English—3
Chemistry—4
Zoology—4
Animal Physiology—3

Third Year

Botany—4
Chemistry—2
Animal Morphology (adv.)—4
Elective in the College of Liberal Arts—5

Fourth Year

Dental work exclusively

*Conditions as in General Scientific Course.

Fifth Year	*Sixth Year*
Dental work exclusively	Dental work exclusively

Seventh Year

French—10 semester hours

Elective in College of Liberal Arts—10 semester hours

It is deemed possible for students of marked ability to complete this course in six years by taking one year's work in French and one year's work in an elective in the College of Liberal Arts, in addition to the dental work in the fifth and sixth years of the combined course, or where practicable.

COURSE PREPARATORY TO THE STUDY OF THEOLOGY

First and Second Years

The regular classical course.

First Year	*Second Year*
Plato—3 (Seneca—2)	New Testament Greek—3
Psychology—3	History of Philosophy—3
Logic and Ethics—2	Sociology—3
Economics—3	Elective—6
Elective—5	

BACCALAUREATE DEGREES

For each of the courses of study leading to a bachelor's degree four years' work is required.

On completion of the regular courses, or of the special courses approved by the faculty, the following degrees are conferred:

Bachelor of Arts upon those who complete the classical course.

Bachelor of Philosophy upon those who complete the philosophical course.

Bachelor of Science upon those who complete the general scientific course, or either of the engineering or mining courses, or a special course in science which has previously been approved by the faculty.

The degree of Bachelor of Didactics is conferred upon *graduates* in the regular courses who have completed the required work in education and can show proof of two years' successful teaching after graduation.

SPECIAL CERTIFICATES IN GERMAN, FRENCH, ENGLISH AND LATIN

Special certificates as to scholarship in German, in French, in Latin, or in English will be granted under the authority of the faculty of the College of Liberal Arts on the following conditions:

1. They shall be issued to students of this University on or after graduation only.
2. They shall be in the nature of an authorized guarantee as to scholarship in German, in French, in Latin, or in English.
3. They shall be issued only after *at least* three years of full work (to represent *five* hours of lectures and recitations a week or an equivalent) in one of these subjects.
4. Candidates must pass a final examination in the subject in which the certificate is desired.
5. The examination must be conducted by the professor in charge of the subject, assisted by such other instructors as may be agreed upon by him and the President of the University.
6. These certificates will be signed by the President and by the professor immediately concerned.

PROFESSIONAL CERTIFICATES IN EDUCATION

The University will grant the certificates named and described below on the following general conditions:

1. An average standing of 8½ must be attained in all subjects.
2. The candidate must give such evidence of superior ability in his work as will, in the judgment of the faculty, entitle him to a recommendation as a teacher or supervisor of schools. It is distinctly understood that not all work which may count towards a degree is necessarily sufficient to count towards these certificates.

I. SUPERVISOR'S CERTIFICATES

The University will issue an university supervisor's certificate to each student who includes in his course for his baccalaureate degree the work designated in this paragraph. In issuing this certificate, the University gives its official recommendation to the recipient, in view of the work which he has done during

his university course, as being a person suitable to engage in the work of organizing and conducting graded schools.

The requirements are:

1. General Psychology, six semester hours.

2. Courses 1 (2), 3 (4), 5 (6), 7 (8), 11 (12), and 13 in education, aggregating twenty-four semester hours.

3. General knowledge. Additional work sufficient to meet the requirements for graduation from one of the courses in the College of Liberal Arts.

II. TEACHER'S CERTIFICATES

The University will issue a teacher's certificate to each student who includes in his course for his baccalaureate degree the work designated in this paragraph. In issuing this certificate the University gives its official recommendation to the recipient, in view of the work which he has done during his university course, as being a person suitable to engage in the public school service. The requirements are:

1. Special knowledge.

(a) The student must secure a certificate of special proficiency in one of the subjects in which the University grants such certificates; *or*

(b) He must complete an amount of work of not less than twenty-four semester hours in the aggregate in a subject or group of allied subjects, which he expects to teach, and for which the University grants no special certificate.

The special subject required, and the candidate's proficiency will be determined by the head of the department in which the major part of the work is done.

2. Professional knowledge. The student must complete the following work in the departments of philosophy and education:

(a) Two semesters of three hours a week in psychology; and

(b) Six hours a week for a year (twelve semester hours) in education, including the course in child study, and the course in the principles of education. The remainder of the educational work shall be selected from courses 3 (4), 5 (6), 7 (8).

OUTLINE OF THE PLAN OF INSTRUCTION

NOTE *Additional courses in almost all departments are offered in the Summer Session. The Announcement of the Summer Session will be sent on application to the President of the University.*

SANSKRIT

PROFESSOR POTTER

The courses in Sanskrit are intended to afford a general introduction to Indo-European comparative grammar and to lay the foundation for future reading in the literature and philosophy of the ancient Hindus.

For additional courses in Indo-European grammar see Greek, course 35 (*36*); Latin, course 35; German, courses 11–16, 19; Scandinavian, Courses 9 (*10*), 13 (*14*), 17 (*18*), 19 (*20*); English, courses 87 (*88*), 79 (*80*), 81, 82, 73.

*1. Sanskrit grammar and the reading of easy selections from the Nala. Lectures on Sanskrit phonology.

First semester; Tu., Th.

2. Introduction to the Veda. Lectures on Hindu history and literature.

Second semester; Tu., Th.

A supplementary reading course for the purpose of drill in vocabulary and grammatical forms is offered in the summer session.

GREEK LANGUAGE AND LITERATURE

PROFESSOR FAIRBANKS; PROFESSOR CALL

The first two courses in Greek are intended to give the student an accurate knowledge of forms, syntax, and vocab-

*Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Where a course runs through the year it receives a double number, e. g. 1 (*2*); the whole course is designated in the calendar by the first number, but on the registrar's books each half of the course is designated by its own number. Courses not to be given in 1904-1905 are put in brackets.

ulary, such that in the more advanced courses he can read with comparative ease and appreciate the character of the literature he is studying. While the first aim of all the work in the department is an accurate knowledge of the Greek language, it is not treated as a dead language, and every student is taught to feel that this work brings him into real contact with a people whose thought and literature and art have inspired much of what is best in our own civilization.

A. ELEMENTARY COURSES

Courses 1 to 4 or their equivalent are required for the B. A. degree. Courses 5 to 12 are open to those who have completed course 4.

1 (*2*). BEGINNING GREEK—A course in beginning Greek is offered to students who desire by a special effort to acquire in one year the ability to read simple Attic prose. Goodwin's *Greek Grammar* and White's *First Greek Book* are used in the first semester; during the second semester three books of Xenophon's *Anabasis* are read. Professor CALL.

Daily at 11:00; throughout the year.

3 (*4*). XENOPHON; PLATO; HOMER—During the first four weeks the work in Xenophon is continued, and the principles of grammar reviewed. Plato's *Apology* and selections from his other writings occupy the remainder of the first semester. In the second semester Homer's *Odyssey* is read by the class, and lectures are given on Homeric times and on the character of the Greek epic. Professors CALL, and FAIRBANKS.

Daily at 10:00; throughout the year.

5 (*6*). THE GREEK ORATORS—First semester: The earlier Greek orators; selections are read by the class and reports are given on orations which are not read in class; lectures on the development of Greek oratory. Second semester: Demosthenes; the class reads the *Philippics* and the *Oration on the Crown* and individual members report on other orations. The special aim of the course is to introduce the class to the spirit of Greek oratory, and to the technical methods of which it made use. Professor FAIRBANKS.

Mon., Wed., Fri., at 8:00; throughout the year.

NOTE: *This course is recommended to students who are also taking public speaking 9.*

7 (*8*). GREEK DRAMA, I.—ÆSCHYLUS, PROMETHEUS BOUND; SOPHOCLES, ANTIGONE; EURIPIDES, ALCESTIS—In addition to the three tragedies studied in detail supplementary readings are required from other tragedies, and reports on the origin, literary form, and representation of Greek tragedy. Professor CALL.

Mon., Wed., Fri., at 8:00; throughout the year.

[9. PLATO—The *Gorgias*; selection from other dialogues. First semester; Mon., Wed., Fri., at 10:00.]

[10. TEACHER'S COURSE IN HOMER—The class reads selections from the Iliad which give in outline the whole story of the epic. Special attention is given to questions of language, metre, etc., which arise in high school work. Professor CALL.

Second semester; Mon., Wed., Fri., at 10:00.]

B. COURSES FOR GRADUATES AND UNDERGRADUATES

[11. LUCIAN—Selected dialogues. Professor FAIRBANKS.

First semester; two hours a week.]

12. NEW TESTAMENT GREEK—A careful study of biblical Greek from the philological standpoint. Professor CALL.

Three hours a week.

14. GREEK LITERATURE—An outline of the subject intended both for Greek students and for students not studying Greek. Professor CALL.

Two hours a week; second semester.

17 (*18*). GREEK PROSE COMPOSITION—A course intended to supplement the work in courses 5, 7, 9, and 11. Professor CALL.

One hour a week; throughout the year.

[19 (*20*). GREEK DRAMA, II: SOPHOCLES—The entire seven plays are read with care; lectures on Greek metres, and on the historical development of Greek tragedy accompanying the reading; and students are expected to prepare one paper each semester on a subject connected with their work. Professor CALL.

Three hours a week; throughout the year.]

Given in 1903–1904; omitted in 1904–1905.

C. COURSES PRIMARILY FOR GRADUATES

[31 (*32*). GREEK DRAMA, III: ARISTOPHANES—A study of the extant comedies of Aristophanes, with special reference

to the light they throw on the different phases of Greek life. Several comedies are read by the class together, and the remainder are made the subject of reports by individuals. Each member of the class is assigned a topic on which he prepares a careful paper embodying the results of his own research. Professor FAIRBANKS.

Two hours a week, and an additional hour at the pleasure of the instructor.]

Given in 1903–1904; omitted in 1904–1905.

33 (*34.*) PINDAR AND THE LYRIC POETS—The more important fragments of lyric poetry are read, and the extant poems of Pindar are made the subject of special study. Professor CALL.

Two hours a week; throughout the year.

[35 (*36*). GREEK GRAMMAR: SOUNDS AND INFLECTIONS—The course corresponds in aim and method to the course in Latin grammar (Latin 35). Professor POTTER.

One hour a week; throughout the year.]

Given in 1903–1904; omitted in 1904–1905.

A class in the Greek New Testament will be organized by Professor Fairbanks, and all students of Greek are urged to join it. The class will meet once a week, and no registration is required. The writings of John will be studied in 1904–1905.

A Greek Club, composed of instructors and graduate students, has met once a fortnight at the house of an instructor. During the present year the Odyssey has been read and discussed by the club.

The Lowden prizes in Greek of $15 and $10 are given on the basis of a competitive examination held early in May. The examination covers the ground of the first two years' work in Greek.

CLASSICAL ARCHEOLOGY

ART; HISTORY; ANTIQUITIES

NOTE—*With the exception of the courses in Greek History and Archeology (Greek 21 and 37), the following courses do not require a knowledge of Greek. They are open to students in the philosophical course, as well as those in the classical course.*

Greek. 18 (*14*). OLD GREEK LIFE—Lectures, illustrated

with lantern slides, books on art, etc.; collateral reading in English and examinations are required of the students; references are also given to the important works in French and German for those who can use these languages. The lectures will treat of the characteristics of the land and the people; the Greek house, dress, and mode of life; marriage and funeral customs; markets and trade generally; the duties of citizens in peace and war, etc. Professor FAIRBANKS.

Two hours a week; throughout the year.

[*Latin.* 31 (*32.*) ROMAN LIFE—This course follows the same lines as the preceding course in Greek life. In general it should be preceded or accompanied by the course in Pliny and Tacitus (Latin 11). Professor FAIRBANKS.

Two hours a week; throughout the year.]

Given in 1903–1904; omitted in 1904–1905.

Greek. 21 (*22*). GREEK HISTORY—An advanced course in Greek History for students who are prepared to make investigations from the original sources. In 1904–1905 the period of the Persian wars will be made the subject of the work. Professor FAIRBANKS.

Three hours a week; throughout the year.

The introductory courses in Greek and Roman history are found under the department of history, course 1 (2).

Greek. 27 (*28*). GREEK ART—First semester: Sculpture. The work will be based on Gardner's Handbook of Greek Sculpture. The collections of casts, photographs, and lantern slides are used in connection with each exercise.

Second semester: Architecture, vase-painting, and the minor arts. The student is made acquainted with the more important extant Greek and Roman buildings, and with the principles of architecture. For the study of vase-painting the library is specially well equipped; the lectures deal both with the development of technique, and with the scenes from Greek mythology and Greek life which are depicted on vases. Professor FAIRBANKS.

Mon., Wed., Fri., at 3:30; throughout the year.

NOTE: *On Friday the more important monuments of Greek art are discussed chronologically in illustrated lectures. Students wishing an outline of the subject are permitted to register for this one hour as 27 (28) a.*

[*Greek.* 29 (*30*). GREEK AND ROMAN MYTHOLOGY—Lectures on the origin and transmission of myths; a study of the more important myths of Greece and Rome; and an investigation of the influence of classic myths on later literature, especially English literature. The course is designed for students of literature, as well as for those who may expect to teach either Latin or Greek. A knowledge of Greek is not required for this course. Professor FAIRBANKS.

Two hours a week.]

Given in 1903–1904; omitted in 1905.

[*Greek.* 37 (*38*). TOPOGRAPHY AND MONUMENTS OF ATHENS—A careful study of Pausanias's account of Athens, supplemented by lectures and the investigation of special topics by individual members of the class. Professor FAIRBANKS.

Two hours a week.]

Given in 1903–1904; omitted in 1904–1905.

Latin. 37 (*38*). TOPOGRAPHY AND MONUMENTS OF ROME—The course will follow the same lines as the preceding. Professor FAIRBANKS.

Two hours a week.

A lantern in the lecture room makes the large series of lantern slides available at any time to illustrate the work of the classes.

LATIN LANGUAGE AND LITERATURE

PROFESSOR CURRIER; PROFESSOR POTTER, MISS HUGHES, MISS EDDY

A. ELEMENTARY COURSES

1 (*2*). CÆSAR—Gallic War. Miss EDDY.

3 (*4*). CICERO—Selected Orations. Miss EDDY.

Mon., Tu., Wed., Th., at 1:30.

5 (*6*). VERGIL—Æneid with a course in Mythology. Miss HUGHES.

Mon., Tu., Wed., Th., at 10:00 and 11:00.

7 (*8*). LIVY, CICERO, TERENCE, AND VERGIL—First semester: Livy, selections from Books I, XXI, and XXII; Cicero, *De Senectute*, or *De Amicitia*. Second semester: Cicero, *Selected Letters;* Terence, *Phormio;* Vergil, *Georgics* II or IV; Outline of Roman Literature. Grammar, writing

Latin, and sight reading during the year. Those who show marked proficiency in writing Latin during the first semester are allowed an option of easy Latin, Cicero, and Aulus Gellius, to be read under the direction of the instructor during the rest of the year. Professor POTTER, and Miss HUGHES.

Tu., Wed., Th., Fri., at 8:00, 9:00 and 1:30.

9 (*10*). CICERO AND HORACE—Cicero, *Tusculan Disputations;* Horace, *Odes*, *Satires*, and *Epistles*. These courses are mainly occupied with the literary side of the authors studied. Professor CURRIER.

Prerequisite, course 7 (*8*).

Mon., Wed., Fri., at 9:00.

11 (*12*). PLINY AND TACITUS—Selected Letters of Pliny. Tacitus, *Germania*, and *Agricola*. This course is principally literary and historical. As much attention is given to the Latinity of the Silver Age as is needful for the understanding and appreciation of the authors. Professor FAIRBANKS.

Prerequisite, course 7 (*8*).

Tu., Th., at 9:00.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

13 (*14*). CICERO, QUINTILIAN, AND TACITUS — Cicero, *De Oratore*. Quintilian, Books X and XII. Tacitus, *De Oratoribus*. Particular attention will be paid to literary criticism as exemplified in these authors. Professor CURRIER.

Prerequisite, course 9 or 11.

Tu., Th., at 8:00; 1905–1906.

[15 (*16*). TACITUS, AND SENECA—Tacitus, selections from the Annals and Histories. Seneca, *Morals and Letters*. Professor CURRIER.

Prerequisite, course 9 or 11.

Tu., Th., at 8:00; 1904–1905.]

[17. PLAUTUS — In this course the metres are carefully studied and some attention is given to the ante-classical forms and constructions; but as provision is made in other courses for a more systematic study of the language, the attention is directed mainly to the Roman stage, and to contemporary and later Roman playwrights. The *Captivi*, *Trinummus*, *Menæchmi*, and *Rudens* are read together with selected scenes from the *Amphitruo*, *Miles Gloriosus*, and *Mostellaria*. The analysis of several other plays is given in informal lectures. Open to students

who have taken or are taking course 13 or 15. Professor POTTER.]

First semester; Mon., Wed., Fri.

[18. LUCRETIUS AND CATULLUS—The aim is to study Lucretius's art rather than his philosophical system. All the more poetic passages in the *De Rerum Natura* are read. In this course, and also in courses 20-22, considerable attention is given to the structure of the verse, and to the reading of it. Catullus is studied particularly in his relation to his successors in lyric, epic, elegiac, and epigrammatic poetry. Professor POTTER.]

Second semester; Mon., Wed., Fri.

[19. CICERO'S LETTERS—As students before taking this course will have acquired considerable facility in reading Latin, the attention will be directed to the importance of the letters as historical documents. A large number of letters will be studied, selected with reference to the light that they throw on the many sided character of the orator, and also on the social and political conditions that prevailed at Rome at the end of the Republican period. Open to students who have taken or are taking course 13 or 15. Professor POTTER.]

First semester, 1903; Mon., Wed., Fri.

[20. LUCAN, *Pharsalia*; SENECA, *Medea*—The reading of the *Pharsalia* is supplemented with selections from Cæsar's *Civil War*, and Suetonius's *Lives*. Lectures introductory to the *Medea* treat of the Roman tragic writers who preceded Seneca, and an effort is made to show the relation of the Roman to the Greek plays. Professor POTTER.]

Second semester, 1904; Mon., Wed., Fri.

21. ELEGIAC POETS—After a brief study of the Greek Elegiac poets the class will read the best elegies of Tibullus, Propertius, and Ovid. The aim of the course is to trace the history of classical elegiac poetry from Callinus to Ovid. Professor POTTER.

First semester; Mon., Wed., Fri.

22. THE SATIRES OF JUVENAL; THE EPIGRAMS OF MARTIAL—The course will include incidentally a study of the private life and amusements of the Romans as set forth in these poems. Professor POTTER.

Second semester; Mon., Wed., Fri.

[23 (*24*). COURSE IN CÆSAR AND VERGIL—This course

and the following are intended to meet the needs of prospective Latin teachers and others who wish to gain some familiarity with the methods of original research. The first semester is devoted to syntactical and historical studies covering Cæsar's *Gallic War* (seven books). The work of the second semester consists of literary studies covering Vergil's complete works, but most of the time is devoted to the Æneid. This course presupposes a reading knowledge of these authors. Professor POTTER.]

Throughout the year; Tu., Th., 1903–1904.

25 (*26*). CICERO'S CAREER AS AN ORATOR—This course combines original historical investigation covering the period from the time of the Gracchi till the death of Cicero, with the study of the orations, all of which are considered in chronological order. About thirty of the best speeches will be read by the class. The course includes a special study of the conspiracies of Catiline, based largely on Sallust, Asconius, and Cicero's Letters. Professor POTTER.

Prerequisite, course 19.

Throughout the year; Tu., Th., 1904–1905.

27 (*28*). CICERO, LIVY, AND OVID—Sight reading of suitable selections. Professor CURRIER.

Throughout the year; one hour a week.

30. TEACHER'S COURSE—This course will combine theory, practice, and investigation. The members of the class will serve as assistant teachers in a beginning Latin class, and investigate assigned problems. It is intended for students who have had no experience in teaching Latin. Prerequisite, course 23 or 25, and general pyschology. Professor POTTER.

Five times a week; three hours' credit; second semester.

C. COURSES PRIMARILY FOR GRADUATES

[33. EARLY LATIN—Metrical inscriptions and fragments of the poets. Professor POTTER.]

First semester; Tu., Th.

[34. PETRONIUS AND LATE LATIN—Apuleius's *Cupid and Psyche*, and selections from the Christian Hymns. On the linguistic side considerable attention will be given to the language of the common people and its relation to the Romance tongues. Professor POTTER.]

Second semester; Tu., Th.

35. HISTORICAL LATIN GRAMMAR: SOUNDS AND INFLEC-

TIONS—This course will be based on the reading of inscriptions selected for their linguistic interest and arranged chronologically from the earliest times to the seventh century, A. D. Each member of the class will be assigned some definite problem to investigate and report upon. Professor POTTER.

First semester; Tu., Th., 1904.

36. LATIN SYNTAX—Introduction to the study of historical syntax. Professor POTTER.

Second semester; Tu., Th., 1905.

The instructors of the Latin department meet fortnightly throughout the year to read in course and discuss informally the entire works of some author or period. Advanced graduate students in Latin will be invited to participate in these meettings.

The department is supplied with mounted photographs and lantern slides for the illustration of lectures.

For courses in Roman Antiquities and Archeology see Courses 31 (*32*), 37 (*38*).

FRENCH LANGUAGE AND LITERATURE

PROFESSOR VAN STEENDEREN; ASSISTANT PROFESSOR BUSH, MISS HOLT, (MISS HUTCHINSON), MISS MCGEE

A. ELEMENTARY COURSES

1. FIRST YEAR COURSE—In the first year of the study of French the student is expected to gain a good reading knowledge of the language, sufficient to enable him to make use of it in the pursuit of his other studies. The elements of grammar and the pronunciation are emphasized with a view to laying a thorough foundation for the reading. One of the divisions will be specially reserved for the study of scientific French. Grandgent: *Essentials of French Grammar;* Mérimée: *Quatre Contes;* Halévy: *L'Abbé Constantin.* Assistant Professor BUSH, Miss HOLT, (Miss HUTCHINSON).

First semester, four divisions, daily. A fifth division of this course will be formed at the beginning of the second semester. Miss MCGEE.

2. Continuation of Course 1. Grammar completed. Mérimée: *Colomba;* Bowen: *Scientific French Reader;* Super: *Readings from French History;* Jules Verne: *Le Tour du*

Monde; Sandeau: *Mlle. de la Seiglière.* Assistant Professor BUSH, Miss HOLT.

Second semester, four divisions, daily.

3 (*4*). FIRST YEAR COURSE FOR GRADUATES AND ADVANCED STUDENTS—This course covers the ground of Course 1 (*2*) in three-fifths of the time. Admission on application to the professor in charge. The course is intended for those advanced students who can give satisfactory evidence of having pursued foreign language study successfully and long enough to be able to take it with good results. Professor VAN STEENDEREN.

First and second semester; Mon., Wed., Fri.

5 (*6*). FRENCH NOVELISTS—A second year course. It deals mainly with the most interesting novels and short stories of the great masters of French fiction in the nineteenth century, such as Victor Hugo, Dumas père, Gautier, Balzac, George Sand, Edmond About, Alphonse Daudet, Maupassant, Coppée, Pierre Loti, and Anatole France.

The course imparts ability to read French prose with ease and fluency, and encourages the use of French in the class room. Through analysis of style and treatment it accustoms the student to read critically and aims at the development of his appreciation of literature. Stress is laid on the study of the characteristics of French prose through the observation of words, idioms and phrase construction. Professor VAN STEENDEREN.

First and second semester, two divisions; Mon., Wed., Fri.

7 (*8*). SYNTAX, COMPOSITION, AND CONVERSATION—A course in the principles of French syntax, aiming to impart ability in the writing and speaking of French on the basis of grammatical understanding. The course includes thorough training in the translation of English into French, and in original expression in French, both oral and written. The members of the class will, moreover, be recommended to the American Committee on International Correspondence, which secures to each a correspondent in France. Francois' *Advanced Composition*; Berlitz, *Méthode 2ème Livre.* It is recommended that this course be taken with course 3 (*4*). It is required of the candidates for the teacher's certificate in French. Professor VAN STEENDEREN.

First and second semester; Tu., Th.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

[9 (*10*). THE FRENCH DRAMA—Twelve representative French dramas are read in class, as follows: *Le Cid, Les Femmes savantes, Le Tartuffe, Athalie, Zaïre, Le Barbier de Séville, Hernani, Ruy Blas, La Question d'argent, La Bataille des dames, Le Monde où l'on s'ennuie, Cyrano de Bergerac*, or *L'Aiglon*. Lectures are given tracing the development of the French drama from the beginning. These lectures point out the connection between the plays read, and define the place of each play and its author in the general course of French dramatic development. Besides, the subject is studied in a comparative way by means of outside reading of plays of other nations, in translation or otherwise, so that an idea may be obtained of the position occupied in dramatic literature in general by the French drama. Assistant Professor BUSH.

First and second semester; Mon., Wed., Fri.

11. THE FRENCH NOVEL—This course, which is conducted on the seminary plan, begins with the consideration of the relation between the epic and the novel. The instructor analyzes the plots of the *Chanson de Roland*, the *Chanson d'Aliscans*, the *Roman de Troie*, and some of the *Romans de la Table Ronde*. Reports are given on some of the *Fableaux*, on the *Roman de Renart*, and the *Roman de la Rose*. Then the *Heptaméron*, and Rabelais's *Gargantua et Pantagruel* are briefly considered. Stress is laid on *L'Astrée* of Honoré d'Urfé and its influence on other novelists of the XVIIth century. The class reads Mme. de la Fayette's *La Princesse de Clèves*, and reports are given on Fénelon's *Télemaque*, and on novels by Le Sage, Marivaux, and Prévost, on *La Nouvelle Héloïse*, and on *Paul et Virginie*. Professor VAN STEENDEREN.

First semester; Mon., Wed., Fri.

12. Continuation of course 11. The members of the class read and report on the principal novels and short stories of the XIXth century. Morillot's *Le Roman en France depuis 1610* is used as a text-book. Professor VAN STEENDEREN.

Second semester; Mon., Wed., Fri.

Courses 9, 10 and 11, 12 are given in alternate years. Course 11, 12 will be given in 1904–1905.

14. A COURSE IN FRENCH LYRICS—A lecture and reading course in French poetry. The lectures outline the history and

bibliography of French poetry, define its fundamental characteristics and beauty, and aim to give a clear idea of the technique of French verse. The class reads Canfield's French Lyrics and other selections which will be supplied by the library. Professor VAN STEENDEREN.

Second semester; Tu., Thu.

C. COURSES PRIMARILY FOR GRADUATES

13. OLD AND MIDDLE FRENCH—A reading course in Old French verse and prose with the emphasis on the philological aspect of the subject. La Chanson de Roland will be read entire, and Clédat's *Chrestomathie* in part. The development of the language from Latin to Modern French is studied with the reading by the aid of works of reference in the library, while in addition the course gives a general idea of the beauty and richness of Old French literature. A few lectures will be given on the life and ideas of the Middle Ages. Assistant Professor BUSH.

First semester; Tu., Thu.

15. FRENCH LITERATURE IN THE XVITH AND XVIITH CENTURIES. A lecture and reading course with the emphasis on the literature, life, and customs of the XVIIth century. Beginning with a few lectures on the fifteenth century, the course then takes up the spread of the Renaissance to the time of the writers of the Pléiade, whose literary theories and individual works are discussed in detail as the foundation of the literary development of the seventeenth century. Montaigne, Rabelais, writers of *Mémoires* and *Contes* will be taken up separately. The division and breaking down of the second *volée* of the Pléiade are followed to the reforming work of Malherbe. Finally the establishment of the *Hôtel de Rambouillet* and the confusion of the beginning of the seventeenth century down to the work of Corneille are considered. Assistant Professor BUSH.

First semester; Mon., Wed.

16. Continuation of course 15. Beginning with Corneille, the history of the school of 1660 is traced through its representatives, Boileau, Racine, and Molière. The theories of classicism together with the characteristics and the influence of *Précioisité* are studied. The course includes the study of works of Descartes, Pascal, Bossuet, La Fontaine, La Rochefoucauld,

Fénelon and others. Assistant Professor BUSH.

Second semester; Mon., Wed.

[17 FRENCH LITERATURE IN THE XVIIITH AND XIXTH CENTURIES—The quarrel of the Ancients and the Moderns. Gradual breaking down of the theories of classicism. Literature subservient to the social relations. Social character of the *Lettres persanes* and *L'Espirit des lois*. Influence of the Salons. Sensibility: *Alzire, Zaïre, Manon Lescaut, La nouvelle Héloïse, Paul et Virginie*. Influence of England. Idea of Progress. Literature and Science. Buffon. The Encyclopedists. Naturalism of Rousseau and Diderot. Growth of Individualism. Short revival of classicism. André Chenier. Chateaubriand, Mme de Staël, and the beginnings of the romantic school. Professor VAN STEENDEREN.

First semester; Tu., Thu.]

[18. Continuation of Course 17. The study of the romantic poetry, drama, and novel. Literary cosmopolitism. Local color. Individualism. Sociology and history. Realism. Philosophy and criticism. The Parnassian school of poetry. Naturalism. The social drama. The symbolists. Professor VAN STEENDEREN.

Second semester; Tu., Thu.]

Courses 15, 16 and 17, 18 are given in alternate years. Course 15, 16 will be given in 1904–1905.

For special (teachers') certificates see the regulations pertaining to them on page 86. The courses required are 1, 2 or 3, 4; 5, 6; 7, 8, and a choice of at least five hours a week for a year from the other courses.

SPANISH LANGUAGE

1. FIRST YEAR COURSE. This course gives a fairly good reading knowledge of the Spanish Language, sufficient for practical business purposes. The student is expected to acquire a thorough knowledge of the main elements of Spanish Grammar, and some ability in writing Spanish, but the course concerns itself principally with the reading. Edgren's *Spanish Grammar;* Galdos' *Marianela*. Professor VAN STEENDEREN.

First semester, Mon., Wed., Fri.

2. Continuation of Course 1. Galdos' *Dona Perfecta*; Moratin's *El si de las ninas*. Professor VAN STEENDEREN.

Second semester; Mon., Wed., Fri.

ITALIAN LANGUAGE

1. FIRST YEAR COURSE. This course aims as far as possible to give a good reading knowledge of the Italian language, combined with some knowledge of the literature. During the first half year Grandgent's *Italian Grammar* will be studied, and the reading will consist of some of the shorter works of modern novelists. Assistant Professor BUSH.

First semester; Mon., Wed., Fri.

2. Continuation of Course 1. Scartazzini: *La Divina Comedia di Dante Alighieri*, in part. Lectures on Dante's work, his life and his times, serve as an introduction to the reading. Parts of the poem not studied in class are read in translation in order to give an idea of the poem as a whole. Assistant Professor BUSH.

Second semester; Mon., Wed., Fri.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR WILSON; ASSISTANT PROFESSORS STURM AND EASTMAN, DR. FLOM, MISS LORENZ, MISS PLOCK, AND MR. WIEHR

In the instruction in the German language the first year is spent in laying a broad foundation for the future work. At the beginning of the second year it is expected that students will be able to read the literature with some degree of appreciation, and from this time on the ability to understand and to appreciate the great masterpieces of German literature is the main object in view; at the same time however, the origin and history of words and the relation that the German language bears to the English tongue, are studied and explained. Sight translation, translating at hearing, writing from dictation, and conversation as means to a proper *Sprachgefühl*, form a part of the work.

Courses 1 (*2*), 3 (*4*), 5 (*6*), 7 (*8*), represent first year work, second year work, third year work, and fourth year work respectively, and must be taken in the order of the numerals. Courses 9 to 22 are advanced courses, and may be taken in accordance with the regulations stated later.

All courses in German are offered every year except as otherwise indicated. Courses with odd numbers are given in the

first semester, those with even numbers in the second semester, Students are invited to consult with the instructors in arranging their work. Graduate students of German will find it to their special advantage to combine with their work some of the courses offered in the department of the Scandinavian languages and literatures.

The German library is particularly rich in the history of German literature, the history of the German language, Goethe literature, Middle High German, Old High German, and possesses complete bound sets of the most important philological periodicals. It is conveniently arranged in the German seminar room, No. 108 in the Hall of Liberal Arts, adjoining the other rooms of the department.

A. COURSES FOR UNDERGRADUATES

1 (2). GRAMMAR AND READING — Hempl's *German Grammar*, with constant practice in writing German. The reading consists of easy plays and tales. These courses represent first year work. Seven sections. Assistant Professors STURM, and EASTMAN, DR. FLOM, Miss LORENZ, and Miss PLOCK.

Throughout the year; five times a week.

3 (4). LESSING, SCHILLER, GOETHE, AND FREYTAG—Selections from the works of the authors named, with composition. Courses 3 and 4 represent second year work. Four sections. Professor WILSON, and Assistant Professors STURM, and EASTMAN.

Throughout the year; Mon., Wed., Fri.

5. THE GERMAN NOVEL—Some such work as Scheffel's *Ekkehard*, or Freytag's *Soll und Haben*, is read and discussed as a piece of literary art. There is an inquiry into the nature of the German novel, with assigned reading and reports on the development of the novel in Germany. Course 5 represents third year work. Professor WILSON.

First semester; Mon., Wed., Fri., at 11:00.

6. GERMAN LYRICS—This course is intended to give a general idea of the historical development of the German lyric from the sixteenth century to the present. There are lectures on German verse with special reference to the lyric poets. Buchheim's *Deutsche Lyrik*, or von Klenze's *Deutsche Gedichte*,

is read by the class. Course 6 represents third year work. Professor WILSON.

Second semester; Mon., Wed., Fri., at 11:00.

7. FAUST—Goethe's *Faust, Parts I and II.* The main object of this course is to help the student to the enjoyment of *Faust* as poetry. Careful attention is given to its artistic character as a piece of literature possessing unity. Course 7 represents fourth year work. Professor WILSON.

First semester; Tu., Th., at 11:00

8. HISTORY OF GERMAN LITERATURE—This course gives a general view of the development of German literature from the earliest times to the present, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Francke's *History of German Literature as Determined by Social Forces*, or Robertson's *History of German Literature*, is used as guide, but this is supplemented by reports on assigned reading by the students and by lectures by the instructor. Course 8 represents fourth year work. Professor WILSON.

Second semester; Tu., Th., at 11:00.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

9. GERMAN SEMINAR—For the study and discussion of the works of special periods, of literary tendencies, or of other special subjects in the history of German literature. The nature of the work is indicated by the topics that have been studied in previous years, some of which are Goethe's Youth; Goethe's Period of Classical Sympathies; Literary Cooperation of Goethe and Schiller; Goethe's Life and Works; Lessing's Life and Works; Lessing's Attitude toward the ancient Classics; Schiller's *Wallenstein;* Heine's Life and Works. Each member of the Seminar undertakes, under the personal direction of the instructor, the examination of some special phase of the general subject, and makes regular reports upon the results obtained. As the subject varies from year to year, students may elect the course in succession without duplication. Professor WILSON.

First semester; Tu., Th., at 9:00.

10. GERMAN SEMINAR—A continuation of course 9. The work is conducted in the same manner, but a new subject may be taken up. Professor WILSON.

Second semester; Tu., Th., at 9:00.

11. MIDDLE HIGH GERMAN—Bachmann's *Mittelhoch-*

deutsches Lesebuch, and Paul's *Mittelhochdeutsche Grammatik*. Includes a rapid survey of Middle High German forms, a comparative study of Middle High German and New High German syntax, and yields incidentally through translation into New High German excellent practice in composition. The reading of this semester is largely epic poetry, and is represented by selections from the *Nibelungenlied*, *Gudrun*, *Rosengarten*, *Reinhart Fuchs*, *Alexanderlied*, and from Hartmann von Aue, Wolfram von Eschenbach, and Gottfried von Strassburg. See course 22 in Scandinavian. Professor WILSON.

First semester; Tu., Th., at 10:00.

12. MIDDLE HIGH GERMAN—Course 11 is a prerequisite. The reading consists of lyric and didactic poetry and of prose. The larger part of the time, however, is devoted to the lyrics of Walther von der Vogelweide. Professor WILSON.

Second semester; Tu., Th., at 10:00.

13. OLD HIGH GERMAN PROSE—Attention is given to the historical aspect of the subject. The work is based upon Braune's *Althochdeutsche Grammatik*, Braune's *Althochdeutsches Lesebuch*, Streitberg's *Urgermanische Grammatik*, and Enneccerus's photo-lithographic facsimiles: *Die aeltesten deutschen Sprach-Denkmaeler*. The reading of this semester consists of selections from Tatian's *Evangelienharmonie*, *Benediktiner Regel*, *Isidor*, Notker's translation of *Boethius de consolatione philosophiæ*, and the *Trierer capitulare*. Assistant Professor EASTMAN.

First semester; twice a week; time to be arranged.

Courses 13 and 14 alternate with courses 15 and 16, and were given in the year 1902–1903, and may be expected again in the year 1904–1905.

14. OLD HIGH GERMAN POETRY—A continuation of course 13, by which it must be preceded. The following are read: *Hildebrandslied*, *Muspilli*, *Wessobrunner Gebet*, *Merseburger Zaubersprueche*, *Ludwigslied*, and selections from Otfrid's *Evangelienbuch*. Assistant Professor EASTMAN.

Second semester; twice a week; time to be arranged.

[15. OLD LOW GERMAN (Old Saxon)—Introduction to Old Saxon grammar with reading in the *Heliand* and the *Genesis* fragment. Holthausen's *Altsaechsisches Elementarbuch* and Behaghel's edition of the *Heliand* and the *Genesis*. Admission

only on consultation with the instructor. Assistant Professor EASTMAN.

First semester; two hours a week.]

Course 15 was given in the first semester of 1903–1904, and may be expected again in 1905–1906.

[16. HISTORY OF THE GERMAN LANGUAGE—Primarily for advanced and graduate students. Prerequisite, one semester's work in any of the earlier periods of any of the Germanic languages. Admission only on consultation with the instructor. Assistant Professor EASTMAN.

Second semester; two hours a week.]

Course 16 was given in the second semester of 1903–1904, and may be expected again in 1905–1906.

[17. THE GERMAN ROMANTIC MOVEMENT—Opened with lectures on the general subject, and then follow lectures on the life and earlier works of Tieck, with assigned readings to each student who reports to the class an outline of the ground covered and the results of his study. The works of the Schlegels are taken up in the same manner. Novalis's *Heinrich von Ofterdingen*, *Hymnen an die Nacht*, and *Geistliche Lieder* are read and discussed. After this there are assigned readings in the works of Brentano, Arnim, Kleist, Eichendorff, and Hoffmann. Assistant Professor STURM.

First semester; two hours a week; time to be arranged.]

Course 17 was given in the year 1903–1904, and may be expected again in 1905–1906.

[18. ADVANCED GERMAN COMPOSITION—Assistant Professor STURM.

Second semester; two hours a week.]

Course 18 was given in the second semester of 1903–1904, and may be expected again in 1905–1906.

19. PHONETICS—The principles of sound-formation and sound-change, followed by a detailed study of the phonology of German. This part of the work is based upon Hempl's *German Orthography and Phonology*. Designed to furnish a foundation for work in philology and a practical preparation for those who intend to teach. Assistant Professor STURM.

First semester; two hours a week; time to be arranged.

This course is offered in alternate years, and was given in the year 1902–1903 and may be expected again in 1904–1905.

20. GERMAN SYNTAX—The syntax of the New High Ger-

man is studied from the historical and genetic point of view. The works of Erdmann, Behaghel, and Wunderlich are used. Assistant Professor STURM.

Second semester; two hours a week; time to be arranged.

The course is offered in alternate years, and was given in the year 1902–1903, and may be expected again in 1904–1905.

22. GERMAN LIFE—A course of lectures in German on German life, institutions, and customs. Mr. WIEHR.

Second semester; one hour a week.

SPECIAL CERTIFICATES IN GERMAN

Special certificates of scholarship in German are granted on or after graduation on conditions set forth elsewhere in this catalogue. The *minimum* amount of work required for admission to examination for such a certificate is represented by courses 1 to 6, and four courses chosen from 7 to 20.

SCANDINAVIAN LANGUAGES AND LITERATURES

ACTING PROFESSOR FLOM.

In the department of Scandinavian the aim is to give equal attention to the literature and philology of the Northern languages. The courses will be given strictly as outlined below, though if there should be sufficient demand for some course not scheduled, a class may be formed. Course 1 is intended for those students who have no previous knowledge of Scandinavian. It is expected that this course will give the student such a thorough reading knowledge of modern Norse as shall enable him to read the modern literature with facility. Courses are offered to suit the needs of students of Scandinavian parentage who have a fair knowledge of a Scandinavian language, but wish to pursue in class a more systematic study of the literature. For such students three courses are offered: one in modern Norse literature 5 (*6*), one in Danish literature 7 (*8*), and one in Swedish literature 3 (*4*). The last will be preceded by a short course in Swedish grammar. Course 1 (*2*) under A is an elementary course and may precede more advanced work in Scandinavian languages or literature, although the study of Scandinavian literature may as well begin with course 3 (*4*), while course 9 (*10*) is offered as introductory to Scandinavian philology. Course 9 (*10*) is recommended

especially to students in German and English philology. Such students who wish to take Scandinavian as a minor for a higher degree should combine course 9 (*10*), with 1 (*2*), or 11 (*12*), if the degree is M. A. If the degree is Ph. D. a third course should be taken in the following year. To students in literature who wish to take Scandinavian literature as a minor for a higher degree 3 (*4*), and 5 (*6*), are recommended, although either may be combined with 1 (*2*). Course 3 (*4*) is to a considerable extent devoted to a study of the romantic movement in Sweden. Course 5 (*6*) deals more especially with the realistic school in Norwegian literature. Where Scandinavian is chosen as a major for a higher degree the amount and kind of work will be fixed in each individual case by the head of the department.

A. ELEMENTARY COURSE

1 (*2*). NORSE—Groth's *Dano-Norwegian Grammar* with exercises in composition based on Platon's *Exemplarsamling*, together with the reading of Björnson's *Smaastykker* will form the first semester's work. Second semester: continued composition with conversation and the reading of Björnson's *En Glad Gut*, *Synnœve Solbakken*, Lie's *Nordfjordhesten*, and Ibsen's *Et Dukkehjem*.

This course will serve as an introduction to Norse literature. May be taken by graduate students as part of requirements for a degree.

Throughout the year; Tu., Th., at 11:00. Hours subject to change to suit those concerned. This course is given every year.

B. COURSES IN LITERATURE

3 (*4*). SWEDISH LITERATURE, with a brief introductory course in Swedish grammar in which Sundén's *Svensk Språklära i Sammandrag*, or Poestion's *Lehrbuch der Schwedischen Sprache* will be used. Study of the Gustavian period 1772–1809, and the period of Tegnér 1809–1846; The Classicists, the Romantic school, the Gothic school, Tegnér and his contemporaries. The class will read selections from the classicists and the romanticists followed by a study of *Frithiofs Saga* as Tegnér's chief work. Reports by members of the class. Runeberg's *Fänrik Ståls Sägner* will be read in part. The class study is supplemented by a course of twelve lectures on the history of Swedish literature. In 1901–1902 and 1902–1903 when the course

covered the XIXth century, the class read a work by Selma Lagerlöf, *Dröttningar i Kungahälla* in the former and *Jerusalem I, I Dalarne* in the latter year.

Twice a week. To be given in 1904–1905.

As the Swedish romantic movement stands in close relation to the romantic movement in Germany, course 17 in the German department might very well be taken in conjunction with the above course, or the first semester of the above course may serve as introductory to courses 17–18 in German. See also course 49 in the English department, and French 18.

5 (*6*). NORSE LITERATURE SINCE 1814—Lectures and class reading of masterpieces. First semester: Bjõrnson's *Arne*, and *En Fallit*. Collateral reading: Kielland's *Skipper Worse*. Second semester: Ibsen's *Brand, Peer Gynt*, and *Samfundets Stötter*. Collateral: *Kongsemnerne*, and Boyeson's *A Commentary on the Writings of Henrik Ibsen*.

Two hours a week; Wed., Fri., at 8:10. May be given in 1904–1905. In place of this course was given in 1902–1903 a course in Six Dramas of Ibsen. The following dramas were read and interpreted: *Catilina, Kongsemnerne, Brand, Peer Gynt, En Folkefiende*, and *John Gabriel Borkman*. Some attention was given to Ibsen's dramatic method.

7 (*8*). DANISH LITERATURE—First semester: Two comedies from Holberg, Oehlenschlaeger's *Axel og Valborg, Hakon Jarl*, and *Aladdin*. Second semester: Hertz's *Svend Dyrings Huus* and selections from Grundtvig, Hauch, and Hostrup. Lectures. Prerequisite, course 1 or an equivalent.

Twice a week.

C. COURSE IN PHILOLOGY

9 (*10*). OLD NORSE AND OLD ICELANDIC—Elementary course. Lectures and recitations. The aim of this course is to equip the student with a good vocabulary, and to acquaint him with the peculiarities of Old Norse phonology, inflexion, and syntax, so as to enable him to read the old prosé literature and to use the language for the purpose of comparative study within the Germanic group of languages. Lectures on the relation of Old Norse to East and West Germanic. Phonological exercises in Old Norse, taken up comparatively, will form a part of the work. Kahle's *Altisländisches Elementarbuch* will first be studied. This will be followed by a reading of the *Gylfaginning* in the edition of Finnur Jonsson (*Snorra Edda, 1900*)

and either *Gunnlaugssaga Ormstungu* (ed. Mogk), or *Friðþjofssaga ins froekna* (*ed. Larsen*)

Throughout the year; Mon., Wed., at 10:00.

This course was given in 1903–1904 and will not be given again until 1905–1906.

11 (*12*). OLD NORSE. THE ELDER EDDA — Advanced course. May be taken only by those who have had course 9 (*10*) or an equivalent. In the first semester the following mythological lays have usually been studied: *Þrymskviða, Hymiskviða, Alvissmol, Hárbarðsljòf, Lokasenna, Skirnismol, Grimnismol, Vafthruðnismol, Baldrs Draumar, Volospo*, and *Hovamol.* In the second semester have been read the *Völundarkviða* and the heroic lays of the Sigurd-Niflunga cycle, the lays of the Nibelungen saga. The course presupposes some familiarity with the Nibelungen epic. The text studied hereafter will be that of the edition of Detter and Heinzel, *Saemundar Edda*, Leipzig, 1903, together with Gering's *Glossar zu den Liedern der Edda*, and *Vollständiges Wörterbuch zu den Liedern der Edda.*

Two hours a week; Mon., Wed., at 9:00.

This course was given in 1902–1903 and will be given again in 1904–1905.

22. THE NIBELUNGEN SAGA IN NORSE-ICELANDIC SOURCES. Class reading of the *Volsungasaga, Skaldskaparmal*, chapters 37–39 (ed. Jonsson *Snorra Edda* 1900) and parts of the *Þiðrekssaga*, supplemented by lectures. Assigned parallel reading in the literature on the subject and reports by the members of the class. This course will be correlated as nearly as possible with the Middle High German course in the *Nibelungenlied* in the department of German, but may be taken by any student who possesses an elementary reading knowledge of Old Norse.

Twice a week; second semester.

This course it is expected will be given first in 1905.

14. HISTORY OF THE SCANDINAVIAN LANGUAGES—Lectures with occasional recitations. The course will deal especially with Dano-Norwegian and Swedish. The relation of Old Northern to East and West Germanic; the basis for the division into East and West Scandinavian; later phonological changes in Norse, Danish and Swedish; the loss of grammatical forms resulting in the change of these languages from highly inflexion-

al to analytic languages; the influences that have brought about the present gender categories in Danish and Swedish; change in gender of nouns; development in the meaning of words; the influence of the German language on the vocabulary; other foreign elements; classification of the modern dialects. Prerequisite, one Old Germanic dialect.

Twice a week; first semester.

[17 (*18*). OLD DANISH AND OLD SWEDISH—Lectures and exercises. This course will begin with lectures on the relation of East to West Scandinavian and on early dialectal differentiation in Old Danish. First semester: A, Old Danish, Brandt's *Gammeldansk Læsebog*, and Dahlerup's *Det danske Sprogs Historie*. Second semester: B, Old Swedish, Noreen's *Altschwedische Grammatik* and *Altchwedisches Lesebuch*. Prerequisite, for A, a knowledge of Danish; for B, a knowledge of Swedish in the modern period, or for either course 9 (*10*).

Throughout the year; two hours a week.]

19 (*20*). SCANDINAVIAN INFLUENCE ON ENGLISH—Introductory lectures on early Norse and Danish settlements will be followed by a study of the characteristic of Old Northumbrian as differing from West Saxon. Methods of investigation, loan word tests, Scandinavian elements in Old and Middle English and Modern English dialects. The dialectal provenience of the loan-words. The spring quarter will be given in part to the study of English influence on Scandinavian, especially Old Norse, Modern Norse, and Danish. Prerequisite, a knowledge of German, Old Norse, and Old English.

Second semester; two hours a week.

In addition to above courses any of the courses intended primarily for undergraduates may be taken by graduate students as part of the requirements for a degree.

The following Norse, Swedish, Danish and Icelandic publications are accessible to students in the University or in private libraries: *Arkiv för Nordisk Filologi*, *Annaler* and *Aarböger for nordisk Oldkyndighed og Historie* (*1836–1904*), the publications of the *Samfund til Udgivelse of gammel nordisk Literatur*, *Islendinga Sögur Dania*, *Nordisk Tidsskrift* (*Stockholm*) *Nyt Historisk Tidsskrift* (*Kristiana*), *Norvegia*, *Samtiden* and *Eimreiðin*.

Edda, a Scandinavian society of the University composed of instructors and students, holds tri-weekly meetings at which

papers and reports on subjects in Scandinavian language, literature or history are given.

ENGLISH

PROFESSOR ANSLEY; DR. HAGEN, MR. BREWER, MR. SLOAN, MR. HUNT, MR. BOWMAN, MISS CHAWNER.

Candidates for baccalaureate degrees are required to complete courses 1 (*2*) and 21 (*22*). Five divisions of course 1 begin with the first semester, and one division begins with the second semester. The five divisions of course 21 begin with the first semester.

Unless by special arrangement at the beginning, credit in any course is given only upon satisfactory completion of that course. This rule applies to courses which continue throughout the year as well as to semester courses.

Special certificates of scholarship in English are granted upon conditions explained under the heading "Teachers' Certificates." Information as to acceptable combinations of courses will be given upon request.

(1) COMPOSITION AND RHETORIC

1 (*2*). CONSTRUCTIVE RHETORIC—Practice in the construction of effective English prose, with observation of the principles involved. Lectures, criticism of writtenexercises, and studies in the work of representative modern writers. Required of freshmen. MR. HUNT, MR. BOWMAN, and MISS CHAWNER.

Throughout the year; two hours a week.

3 (*4*). THE ESSAY—Practice in expository writing and in criticism of essays. Open to students who have completed course 1. MR. SLOAN.

Throughout the year; two hours a week.

7 (*8*). THE SHORT STORY—A course in narrative and descriptive prose and the art of modern prose fiction, the short story being the form selected for discussion and practice. Admission, by consent of the instructor. MR. HUNT.

Throughout the year; two hours a week.

11 (*12*). POETICS—Studies in the technique of verse. Admission, by consent of the instructor. MR. BOWMAN.

Throughout the year; two hours a week.

15. THE NEWSPAPER—Lectures upon some details in the work of newspaper making, with practice in writing for the press. What news is, and how it should be put in form for publication;

the writing of editorials; the review of books and the drama; proof reading; the business department. Mr. BREWER.

First semester; two hours a week.

16. THE BOOK—Studies in the making and the care of books. Manuscripts and early libraries; the invention of movable types; the work of the best printers, from Gutenberg to William Morris; modern methods in printing and publishing. Mr. BREWER.

Second semester; two hours a week.

(2) LITERATURE

21 (*22*). ENGLISH LITERATURE—The development of English literature from Chaucer to Browning. Typical works of representative writers are studied as carefully as time permits; and an attempt is made to recognize the more important phases in the evolution of English verse and prose. The work of students in this course is commonly presented in writing, and attention is given to form as well as to substance. Required of sophomores. Mr. SLOAN, Mr. HUNT, and Mr. BOWMAN.

Throughout the year; three hours a week.

23. AMERICAN LITERATURE (PROSE)—A study of representative prose writers of America, including Irving, Cooper, Hawthorne, Emerson, Lowell, and Holmes. Some attention is given to more recent prose, especially the fiction of Howells, James, Bret Harte, and others. Dr. HAGEN.

First semester; two hours a week.

24. AMERICAN LITERATURE (POETRY)—A study of representative poets of America, including Bryant, Poe, Longfellow, Whittier, Lowell, Holmes, Whitman, and Stoddard. Some attention is given to Southern and Western verse. Dr. HAGEN.

Second semester; two hours a week.

[29. THE ENGLISH DRAMA BEFORE SHAKESPEARE—The selections in Manly's *Specimens of the Pre-Shakespearean Drama* are made the basis of this course. In studying the Miracle Plays, each play is compared with corresponding plays, whether in other cycles or isolated. The Moralities and the Interludes are studied in their relations to earlier and later dramatic forms. The early renaissance plays give occasion for a study of classical influence, special attention being given to Seneca. Dr. HAGEN.

First semester; two hours a week.]

Not offered in 1904-1905.

31 (*32*). SHAKESPEARE—Some elements of literary art exemplified in the plays of Shakespeare. Three representative tragedies are studied in detail. Professor ANSLEY.

Throughout the year; three hours a week.

[38. ENGLISH AND SCOTTISH BALLADS—Lectures on the history, the nature, and the influence of ballad poetry, with reading and interpretation of selected ballads. Dr. HAGEN.

Second semester; two hours a week.]

Not offered in 1904-1905.

47. EIGHTEENTH CENTURY LITERATURE—A course of lectures upon the history of English literature in the eighteenth century. The more important literary movements of the century are considered, with the causes and the results of these movements. This course should be preceded by courses 1, 2, 21, and 22. Mr. SLOAN.

First semester; two hours a week.

48. NINETEENTH CENTURY LITERATURE—A course of lectures upon the history of English literature in the nineteenth century. The work and the influence of representative prose writers are especially considered. This course should be preceded by courses 1, 2, 21, and 22. Mr. SLOAN.

Second semester; two hours a week.

49. THE ROMANTIC MOVEMENT—The course begins with a study of the origins and the progress of the movement in the eighteenth century, but particular attention is paid to the period beginning with the *Lyrical Ballads* (1798) and ending with the death of Scott (1832). Wordsworth, Coleridge, Byron, Shelley, Keats, and Scott are studied in representative selections. Dr. HAGEN.

First semester; two hours a week.

63 (*64*). BROWNING—Studies in the poetry of Robert Browning. This course must be preceded or accompanied by course 31. Professor ANSLEY.

Throughout the year; two hours a week.

67. CRITICISM—The development of literary criticism in England from Sir Philip Sidney's *Defense of Poesie* (1595) to Samuel Johnson's *Lives of the Most Eminent English Poets* (1781), as seen in the principles and the practice of such representative critics as Ben Jonson, Francis Bacon, Milton, Dryden, Addison, and Pope. This course must be preceded by course 31. Professor ANSLEY.

First semester; two hours a week.

68. CRITICISM—Literary criticism in England during the nineteenth century. Studies in Jeffrey, Coleridge, Hazlitt, Shelley, Carlyle, Matthew Arnold, Walter Pater, and other representative critics. This course must be preceded by course 31. Professor ANSLEY.

Second semester; two hours a week.

69 (*70*). LITERARY LANDMARKS OF ENGLAND—Occasional public lectures upon the Canterbury Pilgrimage, Ely Cathedral, Stratford-on-Avon, The Scott Country, The English Lakes, Westminster Abbey, and kindred subjects of interest to students of literature. All these lectures are fully illustrated by the stereopticon. Dr. GILCHRIST.

(3) PHILOLOGY

73. HISTORICAL ENGLISH GRAMMAR—Lectures, reports, and discussions. The main topics in the history of the English language are considered: sources of the vocabulary; characteristics of native and foreign elements; changes in the meanings of words; changes in pronunciation and inflections. Dr. HAGEN.

First semester; two hours a week.

75 (*76*). MIDDLE ENGLISH—An introduction to Middle English, with readings in Chaucer's *Canterbury Tales*, Langland's *Piers the Plowman*, and other selections. Dr. HAGEN.

Throughout the year; two hours a week.

79 (*80*). OLD ENGLISH—An introduction to Old English, with study of representative prose and poetry. Dr. HAGEN.

Throughout the year; three hours a week.

[81 (*82*). ADVANCED OLD ENGLISH—In this course *Beowulf* is read and the chief problems in *Beowulf* criticism are considered: the growth of the epic and its present form; its historical and mythical elements; its original home, etc. Dr. HAGEN.

Throughout the year; two hours a week.]

Not offered in 1904-1905.

[85. ANGLO-SAXON LAW AND CUSTOMS.]

Not offered in 1904-1905.

87 (*85*). GOTHIC—An introduction to the Gothic language. This is a course in the study of Gothic phonology, morphology, and syntax, with constant reference to other Germanic dialects. The following books are used: Wright, *A Primer of the Gothic*

Language, second edition, Oxford, 1900, or Streitberg, *Gotisches Elementarbuch*, Heidelberg, 1897; Stamm-Heyne, *Ulfilas*, 10. Aufl., Paderborn, 1903; Uhlenbeck, *Etymologisches Wörterbuch der gotischen Sprache*, 2. Aufl., Amsterdam, 1900; Streitberg, *Urgermanische Grammatik*, Heidelberg, 1896. Open to students who have a knowledge of Old English or of any other early Germanic dialect. Dr. HAGEN.

Throughout the year; two hours a week.

PUBLIC SPEAKING

PROFESSOR GORDON; MISS EVERTS.

The courses in this subject naturally divide themselves into two lines of work: one line looking to debate or oratory as an end, and the other to the interpretation of literature as an end. Courses 1 (*2*), 3 (*4*), 18, and 20 are fundamental to both lines of work. No student who has not taken or is not taking one of these courses or its equivalent will be admitted to advanced courses 11 (*12*) and 13 (*14*). All other courses are open to students who have had no previous training in public speaking. Students making a special study of debate are advised to take a fundamental course and courses 7 (*8*), and 18. Students making a special study of oratory are advised to take a fundamental course and courses 5 (*6*), 9, and 18. Courses 1 (*2*), 3 (*4*), and 20 are designed for students who wish to study the vocal interpretation of literature. Course 15 (*16*) is designed for students desiring to pursue special lines of study upon approved topics in debate and oratory. Freshmen as a rule are not allowed to take courses in public speaking. Sophomores in the classical and scientific courses may elect a maximum of five hours; in the philosophical course election is unrestricted except by required work, three hours in English, and the sixteen hours limit of work. Students in colleges other than the college of liberal arts must have permission of the chair of public speaking in order to obtain work in this subject.

A. ELEMENTARY COURSE.

1 (*2*). PUBLIC SPEAKING AS AN ART—This course is general, seeking to prepare the student for the special forms of public speaking. Each student is examined with reference to his individual needs and an effort is made to adapt the work to such needs. Miss EVERTS.

Throughout the year; two hours a week.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

3 (*4*). LITERARY INTERPRETATION—The lyric, epic, dramatic, and oratoric forms are studied in their relation to public speaking.

Throughout the year; two hours a week.

5 (*6*). PUBLIC ADDRESS—The preparation and presentation of an argument as to preliminary reading, structure, evidence, briefing, style, and delivery are carefully developed. The forms of oratory are studied, and one or more illustrated by the work of the student. Professor GORDON.

Throughout the year; three hours a week.

7 (*8*). DEBATE—This course seeks to develop the handling of refutation in the preparation of briefs and forensics and actual debate. Professor GORDON.

Throughout the year; two hours a week.

[*Courses 5* (*6*), *and 7* (8), *are the same in content during the first semester. Those students who have taken either course alone can schedule for the latter half of the other in the second semester.*]

9. ORATORY—Takes up the problems of the audience, the style and atmosphere of the address, and the function of persuasion in speaking. Students wishing to enter for the Northern Oratorical League contest or the Hamilton Club Prize Oration contest can prepare their orations in connection with the work in this course. Professor GORDON.

First semester; two hours a week.

NOTE: This course is recommended to students who are taking Greek, 5 (*6*).

11 (*12*). INTERPRETATION OF THE DRAMA—This course takes up the value of imagination and dramatic instinct in the interpretation of the drama and seeks to develop the same. Miss EVERTS.

Throughout the year; one hour a week.

13 (*14*). SHAKESPEARE—A play is studied from the standpoint of its presentation with practical work by the student. Miss EVERTS.

Throughout the year; one hour a week.

15 (*16*). DEBATE AND ORATORY—This course is designed for students desiring special work on the preliminary and intercollegiate debates and the preliminary and oratorical contests

for the Northern Oratorical League and Hamilton Club prize oration contest. Students may schedule for this course at the opening of the first or the second semester. Professor GORDON.

First or second semester; two hours a week.

Compare also Economics 8.

18. EXTEMPORE SPEAKING—Practical work is offered in this course looking to the development of the forms of discourse in actual speaking. This course is open only to men. Professor GORDON.

Second semester; two hours a week.

20. VOCAL EXPRESSION—Practical work in literary interpretation is offered in this course. It is open only to women. Miss EVERTS.

Second semester; two hours a week.

C, COURSES PRIMARILY FOR GRADUATES.

100 (*101*). HISTORY OF ORATORY—A course designed for special research work by graduate students. Professor GORDON.

INTER-COLLEGIATE ORATORY AND DEBATE.

The Northern Oratorical League and the Hamilton Club of Chicago offer each year a first prize of one hundred dollars and a second of fifty. The former is endowed by Mr. Frank O. Lowden, an alumnus of the university. Iowa is entitled to one representative in each contest. Preliminary contests are held to determine who these persons shall be. Five weeks before the close of the first semester the preliminary for the Northern Oratorical League takes place. The preliminary for the Hamilton Club contest comes upon the last Thursday before commencement week. The orations for the latter contest must be handed in by the first Saturday in May.

The opportunities in debate are equally great with those in oratory. The debating league has permanent debates with Wisconsin and Minnesota. The Philomathian forensic society has a debate with Illinois. The preliminary contests for these debates are spirited, as many young men seek the coveted places.

The work in public speaking has been especially arranged to accommodate students taking up such work as the above. Credit may be had for the work when the student properly schedules. [See courses, 5 (*6*), 7 (*8*), 9 and 15 (*16*).]

HISTORY

PROFESSOR WILCOX; PROFESSOR PLUM, AND DR. PEIRCE.

A. ELEMENTARY COURSES.

1. HISTORY OF GREECE—Textbook, lectures, and assignments. A general course in Greek history, intended for first-year students. Special attention is paid to training in methods of historical study. After the holiday recess, the history of Rome will be taken up as preliminary to course 2. Professor PLUM, and Dr. PEIRCE.

First semester; four hours a week.

Course 1 will also be offered during the second semester.

2. HISTORY OF ROME—Textbook, lectures, and assignments. An outline of political and constitutional history down to the crowning of Charles the Great; a study of the growth and organization of the republic, the development and decline of the Roman empire, and its transformation into the empire of the Germans. A continuation of course 1. Professor PLUM, and Dr. PEIRCE.

Second semester; four hours a week.

3. HISTORY OF FRANCE—Text-book and lectures. This course is an outline history of France in 1789. It consists of a study of the monarchical institutions of France, the relation of France to the papal system and to the growth of general European civilization. The course is primarily designed for sophomores. Professor PLUM.

First semester; two hours a week.

4. HISTORY OF GERMANY—Text-book and lectures. The topics under discussion in this course are the organization of the German kingdom and the Holy Roman Empire, the struggle with the Church, the relation to the Protestant Revolution and the development under the House of Hapsburg. This course also is designed for sophomores. Professor PLUM.

Second semester; two hours a week.

5. THE HISTORY OF EARLY AND MEDIÆVAL ENGLAND—This course consists of topical analyses, special assignments, and lectures. It is an outline study of English history from the beginning of English national life to the close of the War of the Roses. The central theme is the development of English political institutions. The social, economic, literary, and religious

life of the people is studied in its relation to the political development of England. Professor PLUM.

First semester; three hours a week.

6. THE HISTORY OF ENGLAND UNDER THE TUDORS AND STUARTS—Topical analyses and lectures. This course covers the history of England from the end of the fifteenth century to the opening of the eighteenth. Special attention is given to the outworking of those complex forces of national life which have made England the foremost body politic in the modern states-system of Europe. Professor PLUM.

Second semester; three hours a week.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

7. DIPLOMATIC HISTORY OF THE UNITED STATES—A historical survey of our foreign relations from the Revolution to the present time. Special attention will be given to commercial treaties following the Revolution, to annexations of territory, to relations with Spanish America, and to the period of the Civil War. Dr. PEIRCE.

First semester; two hours a week.

8. HISTORICAL RESEARCH AND CRITICISM—A brief course in the methods of historical study and investigation, consisting of (1) lectures and discussions on the principles of historical criticism; (2) practical exercises in the examination of typical problems, the collection and sifting of historical materials, the preparation of select bibliographies and of finished papers on historical subjects. Dr. PEIRCE.

Second semester; two hours a week.

9. THE RENAISSANCE AND THE PROTESTANT REVOLUTION—This course includes a summary of the Renaissance movement and an analysis of the factors of the Protestant Revolution. Course 4 is recommended as a preliminary to this course. Professor PLUM.

First semester; two hours a week.

10. FREDERICK THE GREAT AND THE MAKING OF MODERN GERMANY.—The history of Prussia will be followed from 1740 to 1870 as the center about which will be grouped the principal facts in the organization of the German Empire. Professor PLUM.

Second semester; two hours a week.

11. THE DEVELOPMENT OF THE CONSTITUTION OF THE UNITED STATES—This course is a series of lectures to advanced students. The lectures aim to present the various steps which led to the establishment of the Constitution of the United States in 1789. The struggle between the states of Europe for domination in America, the reasons for the English victory, and the growth of the movement for independence constitute the subject-matter under consideration. Professor WILCOX.

First semester; three hours a week.

12. THE HISTORY OF THE UNITED STATES UNDER THE CONSTITUTION—This course consists of lectures on the development of national political life under the Constitution from its establishment in 1789 to the compromise of 1850. Professor WILCOX.

Second semester; three hours a week.

13. THE EASTERN QUESTION—This course is a study in contemporary old-world politics. The Eastern Question is considered with reference to Europe, Asia, and Africa. Professor WILCOX.

First semester; two hours a week.

14. ENGLAND UNDER THE HOUSE OF HANOVER—This is a lecture course covering the last two centuries of English History. The course is open to those students who have already had courses 5 and 6 or their equivalents. Professor WILCOX.

Second semester; two hours a week.

15. THE FRENCH REVOLUTION—This is a lecture course covering the period of European history from 1789 to 1799. An attempt is made to consider the movement both as a political episode in France and also as an epoch in the general history of Europe. Professor WILCOX.

First semester; two hours a week.

16. SECESSION AND RECONSTRUCTION—This is a lecture course in United States history from the compromise of 1850 to the conclusion of the work of reconstruction. Professor WILCOX.

Second semester; two hours a week.

C. COURSES OPEN TO GRADUATES ONLY

17 (18). SEMINARY IN UNITED STATES HISTORY—This is a course of special research in some particular field of United States History. The aim is to develop methods of independent

investigation as well as to gain an exhaustive knowledge of some one phase of our national life. In exceptional cases undergraduates of unusual preparation are admitted to this course. Professor WILCOX.

Two hours once a week; throughout the year.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH; DR. HORACK

For undergraduate students the beginning courses offered in the department of Political Science are 1 and 2. Students who desire to elect but one year's work in this department are advised to schedule for these courses. Those who expect to pursue a more extended line of study in political and social science are advised to schedule for these courses in their second or sophomore year.

Courses 7 and 8 constitute a liberal introduction to the study of law, and are arranged for the combined college of liberal arts and law course.

UNDERGRADUATE COURSES

1. AN INTRODUCTION TO POLITICAL SCIENCE—In the study of political and social science this course is fundamental being a general introduction to the phenomena of organized society among men. The scope of the lectures may be briefly indicated as follows: The early history of mankind, wherein evolution and the fundamental laws of human progress will be explained and their application to the development of social and political institutions clearly indicated; a general consideration of anthropology with reference to its bearing upon the study of the political and social institutions of the Indo-European peoples; the origin of government historically considered; the political institutions of the ancient Greeks, and a consideration of their political ideas and ideals; the political institutions of the Romans, and a consideration of their contributions to public law and jurisprudence; primitive Germanic institutions, especially the markgenossenchaft; and mediæval politics—feudalism and the Church and State. Professor SHAMBAUGH.

First semester; Mon., Wed., Fri., at 8:00.

Open to all students except freshmen.

2. MODERN GOVERNMENTS—Lectures on the governments of France, Germany, Prussia, Switzerland, Belgium, Australia, and England. Professor SHAMBAUGH.

Second semester; Mon., Wed., Fri., at 8:00.
Open to all students except freshmen.

3. PRINCIPLES OF AMERICAN GOVERNMENT—A study of the sources and early development of the principles of government in the United States. Herein our Anglo-Saxon inheritance, government in the colonies, growth toward independence and union, the establishment of the first state governments, and the beginnings of local government will be considered. The following documents will be studied and analyzed: Magna Charta, the Act of Habeas Corpus, the Petition of Right, the Bill of Rights, Colonial Charters, Plans for Union, The Declaration of Independence, Articles of Confederation, the First State Constitutions, and the Constitution of the United States.

Lectures and collateral readings. An outline is prepared for the class in the study of Colonial Charters and First State Constitutions. Dr. HORACK.

First semester; Mon., Wed., Fri., at 11:00.

Open to juniors and seniors.

4. COMPARATIVE STATE LEGISLATION—A study of present problems. Herein particular attention will be given to the growth of trusts and corporations showing the diversity of provisions for their organization and control, as well as the causes tending toward greater uniformity of law embodied in Federal legislation. State and federal statutes and decisions will be studied and compared. The course will be non-technical. Dr. HORACK.

Second semester; Mon., Wed., Fri., at 11:00.

Open to juniors and seniors.

5. POLITICAL PARTIES—This course will be divided into two parts: part one (9 weeks) will be devoted to the study of the political machinery of parties—caucuses, nominating conventions, committees, etc.—and to an examination of campaign literature—including platforms, political circulars, speeches, cartoons, etc. The second part (9 weeks) will be devoted to the study of the history of political parties since the adoption of the Constitution and will include a consideration of the issues upon which parties are founded. Dr. HORACK.

First semester, Tu., Th., at 9:00.

6. MUNICIPAL GOVERNMENT—A study of the organization and administration of city governments. The problems of modern city life. The sphere and functions of municipal govern-

ments. Their relation to quasi-public works. Open to juniors and seniors. Dr. HORACK.

Second semester; Tu., Th., at 9:00.

7. JURISPRUDENCE — A study of the nature, definition, classification, and divisions of law. This course will include lectures on the history and fundamental principles of the civil law of Rome and the common law of England. The discussions will be largely non-technical. Recommended in the combined college of liberal arts and law course. Open to juniors and seniors. Professor SHAMBAUGH.

First semester; Mon., Wed., Fri., at 10:00.

8. CONSTITUTIONAL LAW—An introductory study of the nature, principles, and powers of government in the United States as reflected in written constitutions and in judicial interpretations. Leading cases in constitutional law will be read and discussed. Recommended in the combined college of liberal arts and law course. Open to juniors and seniors. Professor SHAMBAUGH.

Second semester; Mon., Wed., Fri., at 10:00.

9. AMERICAN POLITICAL THEORY—A study of American political ideas and ideals, wherein leading state papers will be analyzed, and the political theories of such representative American thinkers as William Penn, Thomas Paine, Washington, Hamilton, Jefferson, John Adams, Samuel Adams, Madison, Fisher Ames, Marshall, Monroe, Webster, Calhoun, Clay, Alexander Stephens, and Lincoln will be discussed and criticised. Open to juniors and seniors. Professor SHAMBAUGH.

First semester; Tu., Th., at 11:00.

10. AMERICAN POLITICAL THEORY—This will be a continuation of course 7. Open to juniors and seniors. PROFESSOR SHAMBAUGH.

Second semester; Tu., Th., at 11:00.

11 (*12*). POLITICAL SCIENCE CONFERENCE—A weekly conference for the discussion of contemporaneous political problems, current legislation, and current political literature. Professor SHAMBAUGH, and Dr. HORACK.

Friday afternoon, 2:30 to 4:30.

13. IOWA HISTORY AND POLITICS—A course of lectures on the history and politics of Iowa. Professor SHAMBAUGH.

First semester; Tu., Th., at 1:30.

14. GOVERNMENT OF COLONIES AND DEPENDENCIES—A study of the history and principles of the various systems of colonial government and administration, with special reference to American territories and dependencies, the phenomenon of "expansion," the causes of migration, the diversity in race characteristics, and the conditions necessary for local self-government. Open to juniors and seniors. Dr. HORACK.

Second semester; Tu., Th., at 8:00.

COURSES PRIMARILY FOR GRADUATES

15. COMPARATIVE NATIONAL GOVERNMENTS—A comparison of the provisions of the constitutions of England, United States, France, Germany, and Switzerland, from both a theoretical and a practical standpoint. Dr. HORACK.

First semester; two hours.

16. THEORIES OF SOVEREIGNTY—A general survey of political theories as to the origin, nature, and limitations of governmental authority in relation to the individual. It is the purpose of this course to show historically the development of ideas concerning the functions and powers of government. Dr. HORACK.

Second semester; two hours.

17. POLITICAL THEORY—In this course a system of pure political theory will be outlined and correlated with philosophy. Professor SHAMBAUGH.

First and second semesters; two hours.

18. ADMINISTRATIVE LAW—A comparative study of administrative law in France, Germany, England, and the United States. Professor SHAMBAUGH.

Second semester; two hours.

19. SEMINARY IN POLITICAL SCIENCE—In 1904-1905 selected subjects will be assigned for critical study and discussion. Professor SHAMBAUGH, and Dr. HORACK.

Throughout the year; two hours.

POLITICAL ECONOMY AND SOCIOLOGY

PROFESSOR LOOS; PROFESSOR PATTERSON, DR. CADY, DR. SCHAFFNER, DR. RUTTER.*

The department of political economy and sociology includes courses in commerce.

*Lecturer on Commerce, second semester, 1903-4.

Students who look forward to special courses of study in the school of political and social science are advised to elect the introductory course in economic theory and the course in economic history (political economy 1 and 2, or 5 and 6) in their sophomore year.

Courses 1 and 2, or 5 and 6, constitute the preferred general introductory course for all courses in this department. Courses 7, 8, 9, 11, 12, and 27, may also be elected as initial courses in economics. And for the courses in Sociology, 15 to 26 inclusive, no specific previous course is required.

On programmes any of the courses of this department may be cited as economics followed by the appropriate number; or 15 to 26 as Sociology, and 27 to 36 as commerce.

A. ELEMENTARY COURSES.

1. INDUSTRIAL HISTORY—After an introductory study of primitive man and primitive civilization (Starr's First Steps in Human Progress) the course will occupy itself mainly with the development of commerce and industry in Europe (Gibbins' Industry in England), and later with the industrial development of the United States (Wright's Industrial Evolution of the United States). Dr. SCHAFFNER.

First semester; Mon., Wed., Fri., at 11:00.

2. INTRODUCTION TO ECONOMICS—An introduction to the leading principles of economic science. Designed for the general student and as a basis for more advanced studies. Dr. SCHAFFNER.

Second semester; Mon,, Wed., Fri., at 11:00.

3. DEBATING COURSE — Selected topics in economics, politics, and sociology. Open only to students who have taken at least one course in one of these subjects. Students may schedule for this course at the beginning of each semester. It appears in the second semester as economics 4. Professor PATTERSON, and Dr. SCHAFFNER.

Each semester, two hours; time to be arranged.

Students desiring formal instruction in the art of debate are advised to elect public speaking 7 (8) in charge of Professor Gordon. For further explanation of the relations of economics 3 to the courses in public speaking students are referred to Professor Gordon or to the professors in charge of economics 3. Compare also public speaking 15.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES.

5. PRINCIPLES OF ECONOMICS—Fundamental economic concepts; the organization of industry; the distribution of wealth; the relation of the state to industrial action. Designed as a general survey of economic science for advanced students. Open to juniors, seniors, and professional students with or without a previous course in economics, and to sophomores who have taken high school economics. Professor LOOS.

First semester; Mon., Wed., Fri., at 9:00.

6. ECONOMIC HISTORY—Outlines of economic history, with some notice of the history of economic theory, a study more especially of recent economic history with detailed analysis of the industrial revolution in its economic and social aspects. Special attention will be given to the development of the individualistic philosophy and to the later development of the organic conception of society, and its reaction on practical politics and legislation—the factory acts, trade-unionism and the trust problem. Designed to follow course 5 or 2, but it may be taken independently. Professor LOOS.

Second semester; Mon., Wed., Fri., at 9:00.

7. CURRENCY AND BANKING—The nature of currency, metallic money and credit instruments; the principles of banking; the history of banking; government demand obligations and credit financiering. Professor LOOS.

First semester; Mon., Wed., Fri., at 11:00.

8. PUBLIC FINANCE—(1) The science of public finance; the theory of public expenditure; public income and public debts; the preparation of the budget and financial administration. (2) Outlines of the financial history of the United States. Professor LOOS.

Second semester; Mon., Wed., Fri., at 11:00.

11. ECONOMIC AND COMMERCIAL GEOGRAPHY — The conditions which affect commercial and industrial development will first be considered, followed by a study of the commercial geography of the extractive and manufacturing industries. The effect of climate, rainfall, rivers, coast lines, soil, plant, and animal life, etc., will be noted and the production and distribution of the domestic and foreign products of agriculture, mining, forestry, fishing, and the principal articles of manufacture considered. Professor PATTERSON.

First semester, Mon., Wed,, and Fri., at 10:00.

12. TRANSPORTATION—The course will deal chiefly with railways; railroad organization and management, explanation of terms in common use in railroad accounts and reports, history of railroad development, discussion of rates, competition, discrimination, state management, and the commission system—state and interstate. Professor PATTERSON.

Second semester; Mon., Wed., and Fri., at 10:00.

13 (14). THEORY AND TECHNIQUE OF STATISTICS—A study of the population of the United States will be used to illustrate the statistical method of investigation: The preparation of schedules, methods of tabulation, tabular and diagramatic presentation of facts; the use of averages, index numbers, the median, the coefficient of error and other statistical devices. Professor PATTERSON.

Throughout the year; two hours, time to be arranged.

15. INTRODUCTION TO SOCIOLOGY—An introduction to the theory of society, prefaced by studies in anthropology and ethnology. Professor LOOS and Dr. SCHAFFNER.

First semester; Tu., Th., at 9:00 and third hour by appointment.

16. SOCIAL AMELIORATION—(1) The general theory of social amelioration: police, sanitation, public utilities and education. (2) Municipal administration, dealing with the social and economic problems of modern cities. Professor PATTERSON.

Second semester; Tu., Th., at 9:00 and third hour by appointment.

17. DOMESTIC INSTITUTIONS—The origins of marriage and the family; evolutionary progress of types; forces leading to the survival of the monogamic type; economic and utilitarian bases of domestic ethics; present industrial dangers to domestic foundations; the problem of divorce. Dr. CADY.

First semester; Tu., Th., at 8:00.

18. CRIME AND CHARITIES—Criminology and penology; pauperism and methods of relief; institutional care of dependants and defectives; philanthropic financiering; social settlements. Dr. CADY.

Second semester; Tu., Th., at 8:00.

19. STUDIES IN SOCIAL ECONOMICS—An introduction to the study of the modern factory system: primitive house industries (Mason's Origin of Inventions, and Woman's place in Primi-

tive Culture); the guild system; and the modern domestic system. Dr. SCHAFFNER.

First semester; two hours, time to be arranged.

20. THE LABOR PROBLEM—The economic condition of the working classes in Europe and the United States from the beginning of the eighteenth century to the present time. The rise and growth of labor organizations; the development of collective bargaining; industrial arbitration and conciliation. Influence of the philosophy of individualism on legislation. The principle of state interference in industry. Dr. SCHAFFNER.

Second semester; two hours, time to be arranged.

21. ANTHROPOLOGY—To be given as part of course 15; it may however become possible to offer throughout the semester a supplementary course of two hours which may be taken in connection with course 15, or independently.

24. SOCIALISM AND CONTEMPORARY SOCIAL LEGISLATION—A critical examination of contemporary socialism and current tendencies in legislation. Professor LOOS.

Second semester; time to be arranged.

25. INTERNATIONAL LAW—The nature and sources of international law; the rules of peace and of war; the conflict of laws. The diplomatic and commercial bearings of the subject will receive emphasis. Professor LOOS.

First semester; Tu., Th., at 10:00.

26. POLITICAL PHILOSOPHY—Lectures on the development of political philosophy and the elements of legal history. The class will read selections from Plato's *Republic and Laws*, Aristotle's Politics, Machiavelli's Prince, Hobbes, Montesquieu Blackstone, and Locke; Spencer's *Man vs. the State*, Huxley's *Administrative Nihilism*, Ritchie's *Principles of State Interference*, and selections from other modern philosophers. Professor LOOS.

Second semester; Tu., Th., at 10:00.

27. COMMERCIAL POLICIES—This course will include a brief review of the commercial systems adopted at various times by the several nations and a careful study of present policies. Protection, free trade, the mercantile system, reciprocity and commercial treaties, bounties, subsidies, tonnage duties, navigation laws and the consular service will be among the topics treated. Professor PATTERSON.

First semester; daily, time to be arranged.

28. COMMERCE AND THE CONSULAR SERVICE—Lectures on the industrial resources and trade regulations of leading countries, their commercial relations and the consular service; and the reading of the United States consular regulations with notes on conflict of laws and reports from students on assigned topics. Given by Dr. RUTTER.

Second semester, 1903-4.

29. CORPORATION FINANCE AND THE THEORY OF ACCOUNTING—Corporation management and finance. Growth of corporations; their organizations; forms of investment; stock speculation; consolidation; bankruptcy; receivership, reorganization; general principles of investment. The principles and methods of accounting. Professor PATTERSON.

First semester; time to be arranged.

30. RESOURCES OF THE UNITED STATES—An advanced course in commercial geography. The position of the United States in reference to the other nations will be considered, followed by a critical study of the resources of the several states. Federal reports will be freely used, and the various year books and trade journals consulted. Students will be required to consult these sources and determine for themselves the relative weight of the several industries in different states. Professor PATTERSON.

Second semester; time to be arranged.

32. (*Mathematics 18*). INSURANCE — The mathematical theory of insurance. Dr. WESTFALL.

Second semester; two hours, time to be arranged.

33 (*34*). THE MATERIALS OF COMMERCE—Courses in the materials of commerce are at present provided by the departments of botany and geology.

35 (*36*). COMMERCIAL LAW—Students during their senior year may schedule in the college of law for contracts, bills, and notes, and similar courses, under the advice of this department, but in no case for more than five hours in one semester.

C. COURSES PRIMARILY FOR GRADUATES.

NOTE—*Some of the courses which follow are prescribed for seniors taking special courses in the school of political and social science. Any of these courses are open to undergraduates who have taken the equivalent of 8 semester hours under B.*

39 (*40*). ADVANCED ECONOMIC THEORY—The rise and development of the classical school of economists will first be

considered. This will be followed by a study of the recent development of political economy. The class will read (1) portions of Adam Smith's *Wealth of Nations*, Malthus's *Essays on Population*, Ricardo's *Political Economy*, and Cairnes's *Leading Principles*; and (2) selections from the writings of the Austrians, and from Marshall, Clark, and other modern economists. Professor LOOS.

Throughout the year; two hours, time to be arranged.

41 (*42*). THE DISTRIBUTION OF WEALTH—A study of the fundamental social institutions and controlling forces that are regulative in the distribution of wealth. This is followed by an investigation of the shares received by the several factors engaged in production, and also the shares received by the various units of society. The work of each semester may be taken independently. Dr. SCHAFFNER.

Throughout the year; hours to be arranged.

45 (*46*). PROBLEMS IN STATISTICS—Designed to assist advanced students in specific lines of statistical research. Professor PATTERSON.

Throughout the year; hours to be arranged.

47 (*48*). GRADUATE SEMINARY—Commerce and taxation will be special subjects for 1904–1905. Preliminary investigations and reports and prepared papers will be presented at joint sessions of the sections on alternate Monday evenings.

A. Modern tariffs and reciprocity treaties. In charge of Professor PATTERSON.

B. Forms and principles of taxation. In charge of Professor LOOS.

PHILOSOPHY

PROFESSOR PATRICK; PROFESSOR SEASHORE, DR. STUART, DR. WILLIAMS

A. ELEMENTARY COURSES

1 (*2*). ELEMENTARY PSYCHOLOGY—A general course designed as an outline study of the whole subject, an introduction to the special courses in psychology, and a foundation for other courses in the department. The lectures will be illustrated by a rich collection of material for demonstration and by experiments before the class. James's *Psychology, Briefer Course*, and selections from other standard texts will be read. This course is open to sophomores. Professor SEASHORE.

Throughout the year, two sections; three hours a week.

3. ELEMENTARY LOGIC—An elementary presentation of the methods and rules of inductive and deductive thinking, based upon a preliminary study of the general nature and functions of knowledge and of the criteria of truth. Lectures and recitations. For juniors and seniors. Dr. STUART.

First semester; two hours a week.

4. ELEMENTARY ETHICS—A general survey of the field of ethics comprising (1) the psychology of conscience, (2) the theory of morality, and (3) a sketch of the history of moral progress. Lectures and recitations. For juniors and seniors. Dr. STUART.

Second semester; two hours a week.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

5 (6). HISTORY OF PHILOSOPHY—This course will serve as a general introduction to philosophical problems as well as to the history of thought. Attention will be given to the definition of terms and explanation of the meaning of the various philosophical problems. The first semester will be devoted to Greek philosophy, and early Christian and mediæval thought; the second semester, to modern philosophy.

This course should be taken as preliminary to all advanced courses in philosophy, and, where possible, should be preceded by the elementary courses in psychology, logic, and ethics. Professor PATRICK.

Throughout the year; three hours a week.

7 (8). LABORATORY COURSE IN EXPERIMENTAL PSYCHOLOGY—The exercises are so selected and arranged as to familiarize the student with the method, the apparatus, and the results of typical experiments in each of the approved lines of psychological research. Two periods are spent on each problem: during the first period the experiment is performed by each individual, the class being divided into groups of two, and during the second, the results and the literature on the subject are discussed on the seminary plan. Titchener's *Manual of Experimental Psychology* is used and supplemented by mimeographed instructions. Professor SEASHORE, and Dr. WILLIAMS.

Throughout the year; two hours a week.

This course may be taken with or in sequence to course 1 (2).

9. COMPARATIVE PSYCHOLOGY—A description and interpretation of the instincts and intelligence of animals. Comparison of the conscious life of the higher animals with that of man. Prerequisite, course 1 (*2*), or some other introduction to psychology. Dr. WILLIAMS.

First semester; two hours a week.

10. PSYCHOLOGY OF THE CHILD—The physical and mental growth of the child. The theory of recapitulation. The child type. Play. The laws of mental development and the mental characteristics of infancy, childhood, and adolescence. The lectures in this course will be supplemented by reading in the extensive literature of the subject, and by reports from members of the class upon special subjects, such as imitation, self-consciousness, fatigue, suggestibility, right-handedness, differences between boys and girls, etc. Prerequisite, course 1, or some other introduction to psychology. Professor PATRICK.

Second semester; two hours a week.

11. ABNORMAL PSYCHOLOGY—A general survey of the laws of abnormal mental phenomena. Abnormal perception, memory, imagination, reasoning, will, and feeling will be discussed with reference to the explanation of sleep, hypnosis, illusions, automatism, alterations of personality, insanity, degeneracy, and crime. Lectures and reading. Professor SEASHORE.

First semester; two hours a week.

12. AESTHETICS—Preliminary study of the history of æsthetic theories from the Greeks to the present. Analysis and criticism of æsthetic principles and theories from the standpoint of psychology. Reconstructive study of the theory of art including the sense of beauty and the art impulse. The reconstructive study will be based on Santayana's *Sense of Beauty* and Hirn's *Origins of Art.* Prerequisite, course 1 (*2*) and course 5 (*6*), or their equivalents. Professor PATRICK.

Second semester; two hours a week.

C. COURSES PRIMARILY FOR GRADUATES

13. GERMAN PHILOSOPHY OF THE NINETEENTH CENTURY—This course will include: (1) A review of the three great movements of thought in Germany in the past century, the idealistic, the materialistic, and the pessimistic, and (2) a study of recent German philosophy and present tendencies. Prerequisite, course 5 (*6*) or its equivalent. Professor PATRICK.

Not offered in 1904-1905.

14. ENGLISH AND AMERICAN PHILOSOPHY OF THE NINETEENTH CENTURY—A study of recent English and American philosophy, with special reference to the problems of (1) mechanism and teleology, (2) the relation of the physical and the psychical, and (3) pluralism and monism. Prerequisite, course 5 (*6*) or its equivalent. Dr. STUART.

Second semester; two hours a week.

15. INTRODUCTION TO METAPHYSICS — Definition and scope of metaphysics. Theories of reality, with a critical examination of materialism. The seminary method will be followed. Professor PATRICK.

First semester; two hours a week.

16. PHILOSOPHY OF THEISM—The conception of God in the Christian religion and in modern thought. Final causes. The bearing of evolution on theism. Pantheism. Mysticism. This course is a continuation of course 15. Professor PATRICK.

Second semester; two hours a week.

17. ADVANCED ETHICS—A critical study of the historic ethical standards and methods with reference to their adequacy for practical use. Development of a method of ethics based upon a study of impulse, desire, deliberation, and volition. Interpretation of rightness, goodness, and value or worth; duty, obligation, and merit; freedom, and responsibility. Lectures and discussion of assigned readings. Prerequisite, courses 1 (*2*) and 4. Dr. STUART.

First semester; two hours a week.

18. HISTORY OF ETHICS—A survey, historical rather than critical, of the development of ethical theory, particularly during the seventeenth, eighteenth, and nineteenth centuries. Prerequisite, courses 1 (*2*) and 4, or their equivalents. Dr. STUART.

Second semester; two hours a week.

19. THE THEORY OF KNOWLEDGE—A brief explanation and criticism of the methods of research employed in the natural and social sciences, followed by a study of the differences between scientific and other knowledge, and of the nature and function of knowledge in general. Among the topics of the first part of the course will be the methods of experimentation, the use of statistics, probability, and the nature of hypotheses. The second part of the discussion will proceed on the basis of the logical writings of Bradley, Bosanquet, Sigwart, and others. The course is designed primarily for graduate students, but will

not presuppose previous courses in philosophy. Lectures and assigned readings. Dr. STUART.

First semester; two hours a week.

20. KANT—A study at first hand of the *Critique of Pure Reason*. Prerequisite, courses 5 (*6*), or its equivalent. Dr. STUART.

Second semester; two hours a week.

21 (*22*). PROBLEMS IN PSYCHOLOGY—A course of reading and criticism in the current literature of psychology. Professor SEASHORE.

Throughout the year; individual work.

23 (*24*). SPECIAL RESEARCH IN PSYCHOLOGY—Original investigation of special problems in psychology. Laboratory work and theses. The results of these investigations, if of sufficient worth, will be published in the *State University of Iowa Studies in Psychology*. Professor SEASHORE, Professor PATRICK, and DR. WILLIAMS.

Throughout the year; hours to be arranged with instructors.

25. SIGHT. A detailed study of the physiology, psychophysics, and psychology of visual experience. The psychological part will be experimental and will afford opportunity for individual work. The evolution and the development of the sense will be traced. Dr. WILLIAMS.

First semester; two hours a week.

26. HISTORY OF PSYCHOLOGY. A general survey of the development of psychology in ancient, mediæval, and modern thought. Aristotle, St. Augustine, Kant, and Wundt, will be studied intensively as representatives of distinct periods. Dr. WILLIAMS.

Second semester; two hours a week.

EDUCATION

PROFESSOR BOLTON; PROFESSOR BROWN, MR. DORCAS, SUPT. MCCONNELL.

The department of education at present includes the following branches of university work:

1. Regular courses of instruction in the science and art of education.
2. The inspection of affiliated high schools.
3. The work of the university examiner.

4. A bureau of information concerning teachers' positions.

Course 1 (*a*) is the most desirable as a first course in education. Certain other courses may well be taken at the same time. After course 1 (*a*) the order is not important. Courses 1 (*a*) and 5 (*b*), or 1 (*a*) and 7 (*b*) make a good five hour combination. Courses 1 (*a*), 9 (*10*), 12, and 13 (*14*) are especially desirable for normal school graduates and are in no sense a duplication of work done in the normal schools. Advanced courses are also open to those qualified. Some seminary work is especially valuable for such students.

Some work in psychology is a very desirable preparation for the courses in education. Students expecting to do considerable work in education can profitably take psychology in the sophomore year, and then distribute the work in education through the junior and senior years.

Attention is called to the courses especially adapted for teachers, offered by other departments. These courses are of two kinds, (*a*) those dealing in a specific way with the methodology and technique of high school intsruction in those subjects, and (*b*) those in which the subject matter of instruction is of fundamental importance (and to a certain extent adaptable) in teaching those subjects in a modern manner in the high school. As much high school instruction needs vitalizing by being made more adaptable to the demands of the present, the value of such courses becomes apparent.

Teachers' courses of one kind or the other are offered by the departments of botany, English, German, Greek, history, Latin, morphology, political science, zoology. See the announcements for those departments and also consult the professors concerned.

1 (*a*). PRINCIPLES OF EDUCATION—The meaning of education considered from the standpoint of (1) psychology, (2) neurology, (3) biology, (4) anthropology, (5) sociology. Mental development as affected by heredity and environment, the education of the nervous system, mental hygiene, habit, association, memory, imagination, apperception, instinct, training in sense perception, observation, feeling and volition in relation to education, motor training, suggestion and imitation as forces in education. Varieties of education and varying ideals, educational means, educational values. Theories maintained by classical writers on education, such as Plato, Comenius,

Pestalozzi, Froebel, and Herbart; contemporary writers as Hall, Harris, Rein, Dewey, etc. A study of such questions as the culture epochs, concentration, correlation, nascent periods, etc. Application of the foregoing to the making of courses of study and to teaching.

Two sections, throughout the year; Mon., Wed., Fri., at 10:00. Professor BOLTON. Mon., Wed., Fri., at 9:00. Mr. DORCAS.

3 (4). GENERAL PEDAGOGY—This course is designed primarily for students without experience in teaching, those who have not studied psychology, or those not taking it. Aims to acquaint the student with the laws governing the growth of the mind, and to derive from these general principles of teaching. During the second semester, some work in child study or the history of education may be substituted for a part of the course. Mr. DORCAS.

Throughout the year; daily at 8:00.

5 (6). METHODOLOGY AND TECHNIQUE OF INSTRUCTION —A careful study of the fundamental principles of methodology of teaching, together with demonstrations of library and laboratory accessories. The major part of the time will be devoted to high school subjects, though the relation of elementary to higher instruction will be considered. Designed to be thoroughly practical. Members of the faculty from several other departments frequently contribute lectures on the teaching of their own subjects in the high school. During the past, the heads of the departments of English, history, political science, botany, mathematics, and morphology have given such special lectures. These and others may be expected again. Through the kindness of school officials, students will be permitted to visit the city schools to observe methods and school organization.

Two sections, throughout the year; Tu., Th., at 10:00, Professor BOLTON. Tu., Th., at 9:00, Mr. DORCAS.

7 (8). HISTORY OF EDUCATION—A rapid survey of the education of the Chinese, Egyptians, Hindus, and Persians; a careful consideration of Hebrew, Greek, and Roman education; the tracing of educational activity throughout the Dark Ages, and scholasticism, down to the renaissance; development of the humanistic, realistic, and naturalistic tendencies in renaissance education; a careful study of the more prominent educational

reformers, such as Erasmus, Montaigne, Rabelais, the Jesuits. Comenius, Locke, Rousseau, Pestalozzi, Froebel, and Spencer, Mr. DORCAS.

Throughout the year; Tu., Th., at 11:00.

9 (*10*). JOURNAL CLUB—This club meets weekly for the discussion of current educational literature. A report is usually given by some member upon articles of current interest, and then all join informally in the discussion. It has proven of great mutual benefit to students joining. Professor BOLTON and Mr. DORCAS.

Throughout the year; Th., at 4:30.

12. THE PEDAGOGY OF CHILDHOOD AND ADOLESCENCE —A study of the physical, mental, and moral nature of children and the best means of the proper development and training of each. Practical questions of home, school, and social pedagogics will be prominent, e. g., educational value of plays and games, self-government in school, children's interests and how to guide them, the power of imitation, the development of altruism, learning of law and order, children's fears, the nervous child, the troublesome child, eyesight, hearing, school diseases, school hygiene, overpressure in schools, the value of child study to parents and teachers, etc. Professor BOLTON.

Second semester; two hours a week.

13 (*14*). THE HIGH SCHOOL—A practical consideration of the problems of the high school, including the place of the high school in an educational system, its relation to the community, organization and management, courses of study, educational values of high school subjects. The high school in its relation to adolescence. To give perspective, the historical development of the American high school, and a comparative view of foreign school systems will be considered. The training of teachers, the success of school systems with reference to (a) the development of the individual, and (b) the demands of society. Professor BOLTON, Professor BROWN; Supt. MCCONNELL.

Throughout the year; Tu., Th., at 3:30.

15 (*16*). SEMINARY FOR UNDERGRADUATES—Open only to advanced undergraduate students in education. This course will afford an opportunity for the special investigation of simple

educational problems. It will form an introductory course in seminary methods of research. Professor BOLTON and Mr. DORCAS.

Throughout the year; Mon., or Fri., from 4:30 to 6:00.

COURSES PRIMARILY FOR GRADUATES

17. PHILOSOPHY OF EDUCATION—Advanced course. This course will consist of a more detailed and exhaustive study of some of the questions begun in course 1 (2). Lectures will be given indicating the method of approach and outlining the topic, and then students will be expected to study critically through copious reading, sustained reflection, and, in some cases, observation and experimentation. Reports upon prepared topics will be submitted for class discussion. Professor BOLTON and Mr. DORCAS.

First semester; Tu., Th., at 2:30.

*18. HYGIENE OF INSTRUCTION—The physical and psychological conditions that promote normal psychic development. The following are typical topics: General facts and laws of growth and development; fatigue and methods of studying it; hygiene of the senses; principles and hygiene of motor tiaining; periods of study, recesses, home study; ventilation, school furniture, and apparatus; the hygiene of reading, writing, singing, arithmetic, etc. Lectures, assigned readings, and reports. Professor BOLTON.

Second semester; two hours a week.

*19. HERBARTAIN DOCTRINES—Herbart's psychological and ethical doctrines in their bearing upon education. A critical consideration of his doctrines of apperception, interest, ethical development, and will training. A sketch of the Herbartian movement in Germany and in America. Teachings of Herbartian disciples. Mr. DORCAS.

Second semester; two hours a week.

*20. READINGS IN GERMAN AND FRENCH PEDAGOGY—Open only to those who have taken advanced courses in pedagogy, and who have a reading knowledge of these languages sufficient to make them a means of thought-getting. Readings and translations will not be attempted in class; this period will be devoted to reports upon the thought-content gained through reading. Professor BOLTON.

Second semester; two hours a week.

*21. CURRENT EDUCATIONAL PROBLEMS—The topics discussed will necessarily vary somewhat from year to year. An attempt will be made to study carefully the questions that are in the focus of consciousness of the educational public. The following are typical and merely suggestive: Electives in high schools and colleges; self-government of pupils; athletics in high schools; manual training; theory of the kindergarten and its public maintenance; transportation of children to school at public expense; state aid to primary and higher education; nature study; child study in the schools; medical inspection of schools; training of teachers, etc. Professor BOLTON.

First semester; two hours a week.

22. HISTORY OF EDUCATION—Advanced course. Open only to those who have taken course 7 (*8*) in this subject. An exhaustive study will be made of selected chapters in the history of the development of educational thought. Sources will be investigated whenever available. Lectures, readings, and extended reports. Mr. DORCAS.

Second semester; two hours a week.

23 (*24*). GRADUATE SEMINARY IN PEDAGOGICS—Designed to assist graduate students in original research and in the prosecution of thesis work for advanced degrees. Professor BOLTON.

Throughout the year; Mon., or Fri., 4:30-6:00.

THE EDUCATIONAL LIBRARY AND MUSEUM—The department of the science and art of education occupies a suite of five rooms on the second floor of the hall of liberal arts. Besides two offices, a seminar room, and a large lecture room, there is one large room used as a department library and museum.

The library is well equipped with all the standard and many special pedagogical works. All the American educational journals of any importance, and many English, German, and French periodicals are on file. In all about forty journals are regularly received. The library is thoroughly equipped for graduate work in most lines of educational research. It is especially well equipped for work in educational psychology, philosophy of education, and child study.

*The starred courses will not all be given in one year. A group will be offered each year, thus enabling the student to secure from this list new courses for at least three years. This arrangement, combined with the opportunities provided by the regular courses given each year, and the special seminary work, offers a wide scope of work to those seeking the master's or doctor's degree in education.

ANIMAL MORPHOLOGY AND PHYSIOLOGY.

PROFESSOR HOUSER; MR. LAMBERT, MR. ————.

This department affords facilities for at least three years of coherent undergraduate study, with opportunity for some choice in each of the years. The following arrangement of courses is recommended when the work is to extend over three years. During the first of these years, either course 1 (*2*) or course 3 (*4*) may be pursued, or the two courses may be combined. The second year's work should be devoted to courses 7 and 8, with course 5 as a possible auxiliary. For the third year, there is an option between the topics of courses 9 and 10, and the anatomical work of course 11 (*12*).

In case a shorter period is to be given to undergraduate study in this department, the work should begin with course 1 (*2*) or course 3 (*4*), or with a combination of the two.

Suggestions concerning graduate work in animal morphology will be found in the announcement of the graduate college.

A. ELEMENTARY COURSES.

1 (*2*). ANIMAL BIOLOGY—A general course, introductory to the entire field of animal life. The laboratory work pertains to the anatomy, the microscopical structure, and the life-history of a representative of each of the chief animal groups. The lectures follow upon the completion of the several laboratory studies, and compass the foundations of biological science from the standpoint of animals. Throughout the course, emphasis is placed on structure and function as adjusted to environment. This course may be combined with course 3 (*4*) during the same year. Laboratory, Mr. LAMBERT and an assistant; lectures, Professor HOUSER.

Throughout the year; Mon. and Wed., 1:30 to 3:30. Credit, two hours.

3 (*4*). ANIMAL PHYSIOLOGY—This course, while serving the needs of the general student, also provides a broad and thorough training for those who expect to teach physiology in the high-school. The laboratory work involves: (*a*) the anatomical study of a small mammal; (*b*) microscopical studies of the animal cell, the tissues of vertebrates, and the organs of mammals; (*c*) demonstrations and physiological experiments. The lectures present the essential principles of animal physi-

ology. This course may be combined with course 1 (2) during the same year. Laboratory, Mr. LAMBERT and an assistant; lectures, Professor HOUSER.

Throughout the year; Tu. and Thu., 1:30 to 3:30. Credit, two hours.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES.

5. APPLIED PHYSIOLOGY—A course of lectures open to all who have completed the equivalent of course 3 (4). The subjects considered include: the inherited mechanism; foods—their chemical composition, changes induced by cooking, means of preservation, common adulterants; modern dietary and nutrition studies; animal parasites; the pollution of drinking-water; disease-germs and their dissemination; sanitation of the home and school; care of the person; student-life as conditioned by the nervous system, diet, muscular exercise, and sleep. The work is broadly biological in scope, and is of the utmost importance to teachers. Professor HOUSER.

First semester; Tu. and Th., at 9:00. Credit, two hours.

7. VERTEBRATE HISTOLOGY—This is a laboratory course on the microscopical anatomy of the tissues and organs of vertebrates, accompanied by lectures, demonstrations, and constant use of the reference library. The work includes the principles and more general methods of investigation, particularly fixing, imbedding, sectioning, staining, and mounting. The training in technique afforded by this course is a necessary preparative for all of the more advanced courses offered by the department. Prerequisite: either course 1 (2) or 3 (4), or the equivalent. Professor HOUSER, Mr. LAMBERT, and Mr. ————.

First semester; Tu., Wed., Thu., and Fri., two hours each. Credit, four hours.

8. EMBRYOLOGY OF VERTEBRATES—Lectures on the comparative embryology of vertebrates, supplemented by required reading. Demonstrations and practical studies of germ-cells, oögenesis, spermatogenesis, fertilization of the ovum, cleavage of the fertilized egg, development of the germ-layers, and formation of the embryo. After the first of April, the laboratory work consists of the preparation and study of the chick at successive stages of development during the first five days of incubation, with contributory studies from the lower vertebrates. Prerequisite: course 7. Professor HOUSER, Mr. LAMBERT, and Mr. ————.

Second semester; Tu., Wed., Thu., and Fri., two hours each. Credit, four hours.

9. THE ANIMAL CELL—Lectures, reading, and laboratory studies. The lectures treat of the rise and development of the cell-theory, the general morphology of the animal cell, the microscopical structure of living substance, the chemistry of protoplasm, the transformation of matter and energy in the cell, the reproduction of the cell, the facts and theories of heredity, and the limiting conditions of life. The laboratory work is designed to accompany the lectures. The more important monographs in this field are utilized throughout. Prerequisite: courses 7 and 8. Professor HOUSER and assistants.

First semester; two lectures and one laboratory period per week. Credit, three hours.

10. COMPARATIVE NEUROLOGY—A course for the more thorough study of the structure and physiology of the nervous system. The scope of the work includes a review of the general phenomena of irritability, primitive nervous mechanisms, types of invertebrate nervous systems, the differentiation of nervous structures in the vertebrate series, and the architecture of the mammalian nervous system. The topics are presented by lectures and demonstrations, anatomical work, and microscopical studies employing modern neurological technique. Prerequisite: courses 7, 8, and 9. Professor HOUSER and assistants.

Second semester; two lectures and one laboratory period per week. Credit, three hours.

11 (*12*). COMPARATIVE ANATOMY OF VERTEBRATES—This course is designed for those who are especially interested in the problems of vertebrate anatomy; it may be made introductory to research or to the field of human anatomy. Anatomical and microscopical studies of the protochordates, exemplified by Amphioxus, a tunicate, and Balanoglossus; followed by the dissection of Petromyzon, Mustelus, the skate, the cat-fish, Necturus, the frog, the turtle, the pigeon, and the rabbit. Lectures and reviews, with reading from Wiedersheim's *Camparative Anatomy of Vertebrates*, Gegenbaur's *Vergleichende Anatomie* and other works. Prerequisite: courses 7 and 8. Mr. LAMBERT and Mr. ————————.

Throughout the year; two periods of two hours each per week. Credit, two hours.

C. COURSES PRIMARILY FOR GRADUATES.

13 (*14*). EXPERIMENTAL MORPHOLOGY—An advanced course for the more precise study of the relations between the animal organism and its environment. Laboratory work, references to special monographs, and the preparation of written reports. The experimental work involves a study of: (*a*) the effects upon protoplasm of chemical and physical agents; (*b*) the factors which determine the course of development; (*c*) the phenomena of regeneration in representative forms. Prerequisite: courses 7, 8, 9, and 10. Professor HOUSER.

Throughout the year; two laboratory periods per week Credit, two hours.

16. INVERTEBRATE EMBRYOLOGY—Reading, conferences, and laboratory studies introductory to the development of chosen invertebrates. This course, while general in its scope, is particularly helpful to those expecting to pursue work at seaside laboratories. The course is based on Korschelt and Heider's *Text-Book of the Embryology of Invertebrates*, but the student is encouraged throughout to refer to original sources so far as these are accessible. Prerequisite: courses 7, 8, and 9. Professor HOUSER.

Second semester; two laboratory periods per week. Credit, two hours.

17 (*18*). MORPHOLOGICAL SEMINARY—Weekly meetings of the instructors and advanced students of the department for the presentation of papers, the review of literature, and informal discussions. The primary object is to acquaint those devoting especial attention to animal morphology with some of the aims and problems of current investigation. Professor HOUSER.

Throughout the year; one period per week. Credit, one hour.

19 (*20*). RESEARCH COURSE—Original investigation of a specific problem in animal morphology. The subjects assigned for research will be in Neurology, Cytology, Embryology, and Experimental Morphology. Means will be found for the publication of all results which are worthy of it. For graduate students having the requisite preliminary training in biological work. Professor HOUSER.

Throughout the year; two, three, or five periods per week.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM

A. ELEMENTARY COURSES

1. SYSTEMATIC ZOOLOGY—The earlier part of this course is devoted chiefly to study of the cœlenterates and echinoderms. Later the mammals are taken up and the principles of classification applied to this more limited group. More attention is paid to generic and specific characters, and more detailed descriptions are made, daily practice being afforded by the use of the large series of mammals in the Hornaday collection and main museum. Instruction in the preparation of skulls and skeletons is given to students desiring it. Professor NUTTING, and Mr. BELL.

First semester; Mon., Tu., Wed., Th.; or Mon., Tues., Wed., Th., Fri.

2. SYSTEMATIC ZOOLOGY—This course will be concerned with a continuation of the study of mammals; the last twelve weeks however will be spent in the consideration of birds, and on this subject the whole work in systematic zoology is centered. Owing to the very large series of birds (about 11,000 specimens) in the museum, there is ample opportunity for systematic work during this semester. Professor NUTTING, and Mr. BELL.

Second semester; Mon., Tu., Wed., Th.; or Mon., Tu., Wed., Th., Fri.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

3 (*4*). ENTOMOLOGY—This course opens with a study of the anatomy and the development of insects, after which each order will be taken up in detail, typical species of the principal families being chosen to illustrate structure and classification. Due attention is given to economic problems and to the philosophical side of the subject. Professor WICKHAM.

Throughout the year; Mon., Wed., Fri.

5 (*6*). LECTURES ON SPECULATIVE ZOOLOGY—This course is devoted to a presentation of the more prominent theories concerning the origin and the development of animal forms and a historical review of the position held by the most prominent workers in speculative zoology. Special attention will also be paid to a study of the habits, instincts, and intelligence of ani-

mals. The course will be open to juniors and seniors. Professor NUTTING.

Throughout the year; Tu., Th.

7 (*8*). PRACTICAL ZOOLOGY—In this course the work will be confined to species and groups of species that have either a positive or negative economic value. While the zoological point of view will be maintained, those facts which have a practical value will be emphasized. In general the groups will be treated in systematic order, commencing with the protozoa and ending with the mammalia, and those animals in each group having either a directly beneficial or a directly injurious effect on man will be discussed.

Among the former will be included: those which have an established commercial value, e. g. precious coral, oysters, bees, game birds, fur-bearing animals, whales; those animals which have been domesticated by man. The latter group includes numerous injurious worms and insects, the bird and mammal pests, and parasites, e. g. the English sparrow and pocket gopher.

This course will be open to those who have taken a course in zoology in an accredited high school, or who have had a year's work in either of the biological departments in the university. Professor NUTTING, and Professor WICKHAM.

Throughout the year; Mon., Wed., and Fri.

9 (*10*). ENTOMOLOGICAL TECHNIQUE—Instruction in the best methods of collecting, mounting, and preparation of insects. This course will involve a certain amount of field work, and will supplement courses 3 and 4. It is not intended to be set work, but will give the student an opportunity to consider problems of local distribution, correlations of habit and structure, and other phenomena which can be dealt with satisfactorily in connection with labors in the field. It should also fit him for such practical tasks as are likely to be met with in the line of original investigations. While intended primarily for graduates, or for those who have completed courses 3 and 4, others may be admitted at the discretion of the professor. Professor WICKHAM.

Hours will be arranged.

11 (*12*). THESIS—Advanced work in any group of animals of which the museum contains a sufficient series. Free access to any specimens or books on the museum floor is accorded students doing thesis work in zoology, and a convenient

study room has been fitted up for the use of advanced students.

The above courses are intended to be consecutive, except that course 3 may follow the first year's work in animal morphology, and 5 may be taken by juniors and seniors without previous work in natural science. A combination of courses 3 and 5 is recommended for students desiring a five hours' course, which will include a critical study of a definite group of animals, together with the application of biological principles elucidated in course 5. This course is more particularly designed in the interest of students who do not intend to specialize in zoology.

C. COURSES PRIMARILY FOR GRADUATES

13 (*14*). An exhaustive systematic discussion of any limited group of animals of which the museum affords sufficient material, and the library sufficient literature.

In several groups, such as birds, echinoderms, mollusca, crustacea, coleoptera, and cœlenterata, the museum can now offer facilities for the most advanced systematic work, both the material and the literature being adequate.

15 (*16*). Special investigation along the lines of speculative zoology; e. g., coloration of animals, geographical distribution, variation, natural selection, etc.

Each course in zoology will involve considerable original research, and cannot be outlined in advance, as it is impossible to foretell the direction in which the student will be led by his investigations. As an example of the nature of the work expected of students taking zoology as a major, the following outline of a thesis presented and accepted for the master's degree is given:

Subject: *Individual Variation of Animals in a State of Nature.*

Material used: The unusually large series of certain American birds in the museum of natural history, and the literature on variation in the university library.

Method of work: Over ten thousand measurements were taken of the parts to be compared. The measurements were recorded, and used in constructing diagrams which show graphically: (*a*) the actual extent of variation; (*b*) the comparative extent of variation; (*c*) correlation in variation of different parts of the animal.

The thesis itself presents a discussion of variation in general, and the results of the special investigations of the writer in

particular, with immediate reference to their bearing on the theory of natural selection as advanced by Charles Darwin. The diagrams indicated that not only the extent of variation but also the direction in which it is tending, can be ascertained by the method used by the investigator.

BOTANY

PROFESSOR MACBRIDE; PROFESSOR SHIMEK

A. COURSES FOR UNDERGRADUATES

1 (*2*). GENERAL BOTANY—A course of popular lectures and special studies intended to illustrate the purpose, method, and scope of present botanical research, the progress of botanical science in recent years, and the general economic importance of the subject. The lectures are illustrated by material from the harbarium and the field, and no effort is spared to give the course the highest practical value. This course is open to all students. By special arrangement, students taking the course may have the advantage of laboratory work, not to exceed four hours per week.

A course of illustrated lectures accompanies this course, and courses 5 and 9. Professor MACBRIDE.

Two hours a week; throughout the year.

3. MORPHOLOGICAL BOTANY—This course consists of lectures and laboratory work, and is intended to illustrate the structure and life-history of the several types presented by the vegetable kingdom. Goebel's *Outlines of Classification* is used as a basis, but all the leading text books are at the service of the student.

Special attention is paid to all available forms of our cryptogamic flora; slime moulds, schizophytes, diatoms, algæ, fungi, mosses, ferns, and their allies are successively passed in review. This course is open to all students who have had course 1, and to all students who are credited with botany in their preparatory course. While it is in some particulars a review of the preparatory course, it is also made the basis of work in the subsequent courses. Professor MACBRIDE, Professor SHIMEK.

First semester; Mon., Tu., Wed., Th.

4. GENERAL PLANT HISTOLOGY—This course requires eight hours a week in the laboratory. Daily lectures accompany the laboratory work. In connection with this course the student

receives special instruction in the preparation of sections, staining, mounting, etc. Professor MACBRIDE, Professor SHIMEK.

Second semester; Mon., Tu., Wed., Th.

5 (*6*). GENERAL PLANT PHYSIOLOGY—A course of lectures on the general physiology of plants, supplemented by laboratory work. Professor SHIMEK.

Throughout the year; two hours a week, Tu. and Th.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

7 (*8*). EXPERIMENTAL PLANT PHYSIOLOGY—This is a course in experimental laboratory and field work, and includes the investigation of the processes of absorption, assimilation and respiration in the green plant, including the attendant phenomena of transpiration, various movements in plants, etc. Professor SHIMEK.

Two hours a week; throughout the year.

9 (*10*). PLANT ECOLOGY—A course of lectures, many of them illustrated, supplemented by collateral reading, but based chiefly upon field-observations and investigation. The most important problems of ecology in the broadest sense are discussed and illustrated by field and laboratory work. The local flora, developed under the diversified conditions existing in the region about the university, furnishes abundant material for the study and illustration of the more important phases of modern ecology.

This course is especially recommended to those intending to teach. Professor SHIMEK.

Three hours a week; throughout the year, Mon., Wed., Fri.

11 (*12*). GENERAL MYCOLOGY—This is a course in the study of fungi, and consists of laboratory work, supplemented by lectures, experiments, and collateral reading. It is an advanced course. Students make and classify collections for themselves. In identifying material collected, students are aided by extensive mycologic literature, *exsiccati*, etc. Professor MACBRIDE.

Throughout the year; as arranged.

13 (*14*). VEGETABLE EMBRYOLOGY—A special laboratory course with collateral reading. This course is confined chiefly to the consideration of the embryology of phenogamous plants. Some plant is selected by the student and its whole life-history traced. Professor MACBRIDE.

Throughout the year; as arranged.

15 (*16*). SPECIAL SYSTEMATIC WORK—The large collections of the university now afford unusual opportunity for the special study of particular groups and families, and students are invited to engage in original research in the revision of accumulated species. Professor MACBRIDE, and Professor SHIMEK, according to the group chosen.

Throughout the year; as arranged.

17 (*18*). SPECIAL APPLIED BOTANY—A course of reading and laboratory study for students of pharmacy and medicine. The official *Materia Medica* is made the basis of the special study of medicinal plants, their nature, origin, and relationships. Professor MACBRIDE.

Throughout the year; as arranged.

19 (*20*). THESIS COURSE—Designed for such students, either graduates or others, as desire to undertake problems of original research. Professor MACBRIDE, and Professor SHIMEK.

Throughout the year; as arranged.

21 (*22*). SEMINARY—A special course in reading and study of current literature is arranged for such students as have completed at least the equivalent of courses 3 and 4 in botany. Students are expected to prepare written reviews and criticisms of the literature presented, to engage in discussion of topics especially assigned, and to carry forward at appropriate seasons special investigations in the field as directed. Professor MACBRIDE, and Professor SHIMEK.

Throughout the year; one hour a week, Th., 4:30 P. M.

23 (*24*). PLANT PATHOLOGY—A study of the causes of plant diseases and deformities. Special attention is given to pathological organisms, and to external conditions producing pathologic conditions in the plant. Professor MACBRIDE.

Throughout the year; one hour a week.

25 (*26*). ECONOMIC BOTANY—A lecture, laboratory, and field course presenting a view of the plant world with reference to economic uses. The principles of forestry, and other economic branches related to botany, are discussed, and special plant products of use to man, such as woods, fibres, etc., are considered. This course is also supplemented by laboratory work. Professor SHIMEK.

Throughout the year; one hour a week.

GEOLOGY AND MINING

PROFESSOR CALVIN; PROFESSOR WILDER, MR. ILSLEY

A. COURSES IN GEOLOGY FOR UNDERGRADUATES

1 (2). PRINCIPLES OF GEOLOGY—This course is designed to present the fundamental facts of geology for students who wish to become acquainted with the principles of the science without making a specialty of it. Lectures, illustrated with museum specimens, views, maps, and microscopic preparations. Professor CALVIN.

The course may be supplemented by course 1 in astronomy.

Throughout the year; twice a week, Tu., Th., at 9:00.

3. ELEMENTARY MINERALOGY AND PETROLOGY—This course will include a study of a few of the common economic minerals, and the application of easy determinative tests; the common rock-forming minerals and the common rocks. The aim of the course is a practical familiarity with common minerals and rocks, rather than a technical knowledge of them. It is desirable that students registering for this course have some knowledge of general chemistry. Professor WILDER.

This course may serve as an introduction to course 5.

The first half of first semester; Mon., Wed., Fri., at 8:00.

5. PHYSICAL AND DYNAMICAL GEOLOGY—In this course the principles of general geology are discussed so far as they relate to the destructive, constructive, and other dynamic forces which operate to bring about change on the earth's surface. Especial attention is given to the facts of rock-making, continent-making, and mountain-making, together with the evolution of the major and minor topographic forms of the North American continent. Large series of rocks, minerals, maps, lantern slides, photographs, and models afford the materials for lecture illustration and laboratory study. Professor CALVIN.

Lectures and laboratory work; Mon., Tu., Th., Fri., first semester, at 10:00.

6. HISTORICAL GEOLOGY—In this course attention is given to the time periods and rock systems recognized by geologists, to the physical and physiographic conditions under which the successive rock strata of North America were deposited, and to the lithology, geographical distribution, economic products, and typical faunas of the several formations, particularly those of the Mississippi Valley. Professor CALVIN.

Lectures and laboratory work; Mon., Tu., Th., Fri., second semester, at 10:00.

7 (*8*). GEOGRAPHIC GEOLOGY, TEACHERS' COURSE—This is a course intended to meet the needs of those who expect to teach physical geography and geology in high schools. It will include a study of the origin of the physical features of the earth, the agencies of geographical and geological development and change, and an outline of historical geology. Large use will be made of illustrative materials including rock and mineral specimens, models, maps, photographs, lantern slides, and field examples. Professor WILDER.

Throughout the year; twice a week, Tu., Th., at 9:00.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

9 (*10*). ECONOMIC GEOLOGY—The course is intended to give a practical knowledge of the geological products of the United States which are of economic importance. It will include:

(a). Metalliferous products, the nature and distribution of ore deposits, the sources and modes of deposition of ores, with special reference to the ores of iron, copper, lead, zinc, nickel, tin, manganese, silver, and gold.

(b). Non-metalliferous products, including coal, petroleum, natural gas, phosphates, gypsum, marls, cements, building stone, etc.; soils, fertilizers, and water supply. Professor WILDER.

Mon., Wed., Fri. From middle of first semester through the year, at 8:00.

This course should be preceded by course 2 or course 3.

NOTE—This is primarily an undergraduate course but may be taken by graduate students who have done a year's work in geology.

11 (*12*). PETROLOGY—This course will include:

(a). Crystallography; a study of the properties of crystals, the process of crystallization and the crystal systems, with laboratory exercises using natural crystals, crystal models, and microscopic sections of crystals;

(b). Descriptive and determinative mineralogy of the rock-making minerals;

(c). The mineralogical and chemical composition of rocks, their origin, structural features, and classification.

The laboratory equipment for this course consists of carefully selected collections representing all the principal rock-making minerals, rock families, and rock types, together with several hundred thin sections for study with the microscope, and a number of the latest and best petrographical microscopes. Professor WILDER.

Throughout the year; Mon., Tu., Wed., Th. Lectures and laboratory work, 1:30 to 3:30.

13 (*14*). INVERTEBRATE PALEONTOLOGY—The course in paleontology is designed primarily to give the student such acquaintance with fossil faunas as will enable him to determine the age of rocks containing recognizable organic remains. The principles of classification are studied, and the principal fossil types are carefully described from museum material or from specimens collected in the field. Professor CALVIN.

Throughout the year; Tu., Wed., Th., Fri., at 8:00.

15 (*16*). GEOLOGY OF IOWA—This course is offered to students who have had the equivalent of courses 3 and 4, or 3 and 5, and is intended for those who, for any reason, desire an intimate knowledge of the geology of the state. To count four hours for one, or two semesters. Hours arranged to meet the convenience of students. Professor CALVIN.

17 (*18*). PETROLOGY—Advanced work is offered to students who have taken a course in petrology. The work will consist in the careful study of the rocks of a selected region, and the preparation of a thesis on the same. The course may be taken so as to count two, or four hours through the year. Professor WILDER.

C. COURSES PRIMARILY FOR GRADUATES

19 (*20*). RESEARCH WORK IN PALEONTOLOGY — This course may be taken as a major or a minor by candidates for graduate degrees. It may embrace such problems as the stratigraphic distribution of the fauna of a given geological formation, the critical study of certain selected geological faunas, the geographical and geological range of certain zoological groups of organisms, or the evidences of descent in successive geological faunas. Length of course, from one to three years. Professor CALVIN.

21 (*22*). FIELD WORK IN GEOLOGY — This work may cover any one of a large range of subjects. For example, it

may include the careful study of the indurated rocks of some selected area, making sections, correlating outcrops, mapping the geology, and writing a report. The study of Pleistocene geology in Iowa affords many interesting problems relative to the age and composition of the drift in different localities, the characteristics and origin of the crystalline bowlders, the origin and distribution of the loess, and many other questions. The work may be directed by Professor CALVIN or Professor WILDER.

23 (24). RESEARCH WORK IN ECONOMIC GEOLOGY OR MINERALOGY—The work in this course will depend largely on the previous preparation of the student. It may consist of detailed study of some geological field of economic importance, or of some mineral or group of minerals and the related industries. The credit will depend upon the nature of the work and the time spent. Professor WILDER.

31 (32). MINERALOGY FOR PROSPECTORS—This course is intended to give the student such a familiarity with the physical characteristics and associations of minerals as will enable him to determine them with considerable accuracy without the aid of the blowpipe or reagents. A large amount of labeled material is examined, and a still larger number of unlabeled specimens are given the student for identification. Such blowpipe practice as is deemed necessary to render determinations positive is included during the second semester. Professor WILDER.

Lectures twice a week, Monday and Wednesday, and laboratory work throughout the year. For mining students the course represents four hours during the first semester, and two during the second. For other students it is a two hour course for a year. Lecture hours; 10:00.

Prerequisite, general chemistry.

33 (34). THE NATURE AND ORIGIN OF ORE DEPOSITS—This course aims to study ore deposits in a way that will be of value to the prospector and mine operator. It will cover the more practical parts of the publications of Kemp, Lewis, De Launay, Posepny, and papers prepared for the United States Geological Survey, and the American Institute of Mining Engineers.

Twice a week, Tuesday and Thursday, at 11:00 a. m.; throughout the year. Professor WILDER.

Prerequisite, general chemistry. Mineralogy must be taken either before or with it. Course 31 (*32*) may advantageously be taken during the same year.

COURSES IN MINING

35. ORE DRESSING—The principles and theory of dressing; hand dressing; crushing; jigging, slime concentration; milling; coal washing.

Two hours; first semester.

39 (*40*). MINE ENGINEERING—Excavation; prospecting by pits and borings; support of excavations; coal mining; vein mining.

Discussion of machinery and appliances in mine equipment; hoisting; drainage; air compression; ventilation; underground haulage; design of mine plant.

Five hours; through the entire year.

42. BRIQUETTING—Devices and methods of briquetting coal; flue dust; fine ores; concentrates.

One hour; second semester.

CHEMISTRY

PROFESSOR ANDREWS; DR. VON ENDE, MR. LOCHRIDGE, MR. FRARY.

1. GENERAL CHEMISTRY — Experimental lectures, with laboratory practicum and a weekly quiz. Professor ANDREWS, and DR. VON ENDE.

First semester; four times a week, of which the laboratory practicum constitutes one exercise during the first half and two during the second.

Lectures, Mon., Wed., and Fri., at 9:00. Laboratory any afternoon between 2 and 5.

2. GENERAL CHEMISTRY (Continued). — Lectures illustrated by experiments. Introduction to qualitative analysis.

Second semester; laboratory practicum six hours a week.

Lectures; Mon., Fri., at 9:00. Laboratory hours as during the first semester. Professor ANDREWS, and Dr. VON ENDE.

3. QUALITATIVE ANALYSIS—Laboratory practicum three times a week. Lectures on the theory and practice of analytical chemistry once a week.

First semester; Dr. VON ENDE.

4. QUALITATIVE ANALYSIS — Laboratory practicum four times a week. Second semester. Professor ANDREWS, Mr. LOCHRIDGE and Mr. FRARY.

5. QUANTITATIVE ANALYSIS — (*a*) Lectures on general principles and sources of error, once a week; Tu., at 4:30. (*b*) Laboratory, ten hours a week. Professor ANDREWS.

First semester; four times a week (*A*), or five times (*B*).

6. QUANTITATIVE ANALYSIS (Continued). — (*a*) Lectures once a week.

Second semester; (*b*) Laboratory, ten hours. Professor ANDREWS.

7. THEORETICAL AND PHYSICAL CHEMISTRY—Lectures, covering chemical statics and dynamics, thermo- and electro-chemistry. Dr. VON ENDE.

First semester; twice a week.

8. ELECTRO CHEMISTRY—Lectures twice a week, and practicum once a week.

Second semester.

9 (*10*). THEORETICAL AND PHYSICAL CHEMISTRY—Laboratory course. Courses 7 and 9, or 8 and 10 may be taken simultaneously or independently. They must be preceded by at least courses 1 and 2, and by the first two in physics, or their equivalent. Dr. VON ENDE.

First and second semesters; laboratory practicum once or twice a week.

13 (*14*). ORGANIC CHEMISTRY—Lectures on the aliphatic, carbocyclic and heterocyclic compounds. Laboratory exercises on the preparation of typical organic compounds, methods of synthesis, and study of reactions. Professor ANDREWS.

First and second semesters; lectures once a week. Laboratory, twice a week (*A*), or four times a week (*B*).

15 (*16*). DETERMINATIVE MINERALOGY—Laboratory exercises in the recognition of minerals, and blowpipe analysis. Dr. VON ENDE.

First and second semesters; practicum, three times a week.

C. COURSES OPEN TO GRADUATES ONLY

17 (*18*). RESEARCH WORK in either of the branches designated above under 5, 6, 9 or 13. In all cases where chemistry is taken as a major, part of the work must be in class c.

Much weight is attached to properly directed courses of reading. The attention of the students is turned particularly to the study of the *sources*—of the original publications of investigators who have built up the science of chemistry.

COURSES IN APPLIED CHEMISTRY

25 (*26*). METALLURGICAL ANALYSIS — Methods adapted to the rapid analysis of alloys, ores and other metallurgical products. Requirements, courses 1, 2 and 5. Laboratory, two periods of two hours, (first semester) or three hours, (second semester) each, per week.

First or second semesters.

30. METALLURGY—The reduction of lead, copper and iron from their ores, including the electrolytic methods for reduction and refining of copper.

Lectures four times a week; second semester.

27 (*28*). METALLURGY—This course comprises the metallurgy of the noble metals and of fuels, the physical and chemical characters of the latter and calorimetric determination of heat of combustion of solid and gaseous fuels, and examination of furnace flue gases.

First semester; lectures once, laboratory once a week.

Second semester; lectures once, laboratory twice a week.

21 (*22*). SANITARY CHEMISTRY—This course comprises a study of the contaminations of air, water and food supply from the standpoint of the public health officer or sanitary engineer, and covers the most important methods of chemical examination of the staples of life. It must be preceded by courses 1 and 2.

Lectures once a week and laboratory three times a week; first or second semester.

23 (*24*). ENGINEERING CHEMISTRY — The instruction covers the chemical side of a number of selected problems connected with the examination of materials of engineering construction; besides fuels, water supply and ventilation.

This course includes the lectures of course 21 (*22*) and special laboratory work three times a week.

PHYSICS

PROFESSOR VEBLEN; MR. LORENZ, MR. BOEHM, MR. KENT

A. COURSES FOR UNDERGRADUATES

1. MECHANICS, SOUND, AND HEAT—Lectures and recitations. Professor VEBLEN, Mr. BOEHM, and Mr. KENT.

First semester; four times a week, 11:00.

2. ELECTRICITY, MAGNETISM, AND LIGHT—Lectures and recitations, twice a week. General laboratory work, twice a week. Professor VEBLEN, Mr. LORENZ, MR. BOEHM, Mr. KENT.

Second semester; lectures at 11:00.

B. COURSES PRIMARILY FOR UNDERGRADUATES, BUT OPEN ALSO TO GRADUATES

3. PHYSICAL MEASUREMENTS—Laboratory work, two or more times a week, one semester. Mr. LORENZ.

4. MEASUREMENTS AND DETERMINATIONS OF CONSTANTS—Two or more times a week in the laboratory; one semester. Mr. LORENZ.

31 and 32. A course of weekly lectures, through the year, on units and constants, and the theory and action of some of the more important instruments. Designed especially for students taking courses 3 and 4. Professor VEBLEN.

33. ELECTRICITY—Especially for medical and dental students. Lectures and laboratory work. First semester; twice a week. Professor VEBLEN.

34. OPTICAL INSTRUMENTS—Their theory, action, and manipulation. Lectures and laboratory work; twice a week. Professor VEBLEN.

36. HEAT AND THERMODYNAMICS—Lectures and laboratory work; twice a week. Mr. LORENZ.

37 and 38. ELECTRICITY AND MAGNETISM—Calculus and courses 1, 2, 3, and 4, are prerequisites for this course; twice a week. Mr. LORENZ.

17. OPTICS—Lectures and laboratory work. Calculus and second year physics are prerequisites for this course; twice a week. Mr. LORENZ.

18. THEORY OF LIGHT—Twice a week. Mr. LORENZ.

19. METEOROLOGY—Lectures; twice a week. Professor VEBLEN.

20. METEOROLOGY AND CLIMATOLOGY—Lectures; twice a week. Professor VEBLEN.

21 and 22. SEMINARY—The systematic reading of the physical journals received by the reading room of the department; once a week. Professor VEBLEN.

29. HISTORY OF PHYSICS—Lectures; twice a week. Mr. BOEHM.

30. SOUND—Lectures; twice a week. Mr. BOEHM.

In addition to the courses here mentioned, lectures and laboratory instruction in special or selected topics will be given as circumstances may require or the facilities for instruction may admit. Laboratory work of any grade may be taken during either semester, two or more times a week.

C. COURSES PRIMARILY FOR GRADUATES

23 (*24*). SPECIAL RESEARCH—Open to students who have a sufficient preliminary knowledge of general physics, and who have the necessary experimental skill, acquired in a course similiar to 3 and 4 above. In choosing this course the student must satisfy the instructors that he is sufficiently equipped to undertake research work; and the choice will of course be limited to such problems as the material facilities of the laboratory will make possible of solution.

25 (*26*). THEORETICAL AND PRACTICAL STUDY OF SOME PARTICULAR GROUP OF PHENOMENA OR LAWS — Such a course may consist of critical study of the literature of the subject chosen, as the electro-magnetic theory of light, polyphase currents, terrestrial magnetism, etc. In all cases experimental work will be required where it will be useful or applicable.

27 (*28*). THESIS—In all cases where physics is pursued as a major subject for an advanced degree a thesis will be required. In courses 23 and 25 above the thesis will form a very important part of the requirement. It should embody the record and results of the research or the argument and conclusions of the study. While these will be criticised primarily with respect to their subject matter, it is expected that they will present a neat appearance and be commendable pieces of literary work.

MATHEMATICS

PROFESSOR WELD; PROFESSOR SMITH, DR. WESTFALL, MR. BECK, MISS JOHNSON, MISS SPEIDEL.

In the following statement, courses having odd numbers are given in the first semester; those with even numbers in the second. The suffixes *a* and *b* refer to the first and second quarters of the semester respectively.

Any student prepared for admission to the university may, as a rule, begin work in either first or second year mathematics at the opening of any quarter. No credit will be given for less than one semester's work. The grouping and the sequence of the courses for the first two years are, in general, as follows:

	GROUP (A)	GROUP (B)
First Year		
1st quar.	Trig., 7a	Alg. I., 3a
2nd "	Alg. II., 5b	Alg. II., 5b or Trig., 7b
3rd "	Anal. Geom. I., 10a	Trig., 8a or Alg. II., 6a
4th "	Anal. Geom. II., 12b	Anal. Geom. I., 10b
Second Year		
1st quar.	Diff. Cal., 13a	Anal. Geom. II., 11a
2nd "	Int. Cal., 15b	Diff. Cal., 13b
3rd "	Curves, etc., 18a	Int. Cal., 16a
4th "	Diff. Eqs., 20b	Diff. Eqs., 20b

	GROUP (C)	GROUP (D)
First Year		
1st quar.	Solid Geom., 1a	.....
2nd "	Alg. I., 3b	.....
3rd "	Alg. II., 6a or Trig., 8a	Alg. I., 4a
4th "	Trig., 8b or Alg. II., 6b	Alg. II., 6b
Second Year		
1st quar.	Anal. Geom. I., 9a	Trig., 7a
2nd "	Diff. Cal., 13b	Anal. Geom. I., 9b
3rd "	Int. Cal., 16a	Diff. Cal., 14a
4th "	Diff. Eqs., 20b or Curves etc., 18b	Int. Cal., 16b

Students entering the university with three years preparatory work in mathematics, including solid geometry, will be scheduled in group (B), as given above. Those who are able

to show, as the result of a special examination, a thoroughness of preparation sufficiently in adance of the usual order, will be admitted to group (A).* If only the minimum required preparation be offered, group (C) must be taken. Group (D) is arranged for those entering at the opening of the second semester.

Advanced work in mathematics may be begun upon the completion of any of the above groups.

Technical students may select any one of the three groups (A),* (B), (C), according to their preparation, except that the course in differential equations (20b) is required of electrical and mechanical engineers. Those entering at the opening of the second semester, thus taking group (D), must make up the deficiency in the summer session or otherwise.

All courses in the above groups are four hour courses. The fifth hour of each week will be devoted to such students as need or desire special instruction.

In the following outlines of the various courses A, B, C refer to different divisions of the same class meeting at different hours; while 8:00, 9:00, etc. are the hours of meeting. Courses or divisions enclosed in brackets will not be organized in 1904-1905.

A. COURSES FOR UNDERGRADUATES

1a. SOLID GEOMETRY—A course in solid geometry and mensuration for students who have not completed the work in the high school. First quarter. Two divisions: A, 9:00; B, 2:30; Tu., Wed., Th., Fri.

[2b. SOLID GEOMETRY—The same as 1a. Fourth quarter.]

3a. ALGEBRA I.—Exercises in the statement and solution of problems; the theory of the simple and of the quadratic equation; simultaneous systems of equations; ratio, proportion and variation; the theory of exponents; logarithms. First quarter. Two divisions: A, 8:00; B, 1:30; Mon., Tu., Wed., Th.

3b. ALGEBRA I. The same as 3a. Second quarter. Two divisions; A, 9:00; B, 2:30; Tu., Wed., Th., Fri.

4a. ALGEBRA I. The same as 3a. Third quarter. One division, 10:00, Mon., Tu., Thu., Fri.

5b. ALGEBRA II.—Arithmetical, harmonic and geometrical progressions; properties of series and the development of

*No provision will be made for group (A) in 1904-1905.

simple functions into series; the binomial theorem; the logarithmic and exponential series; continued fractions; permutations and combinations. Second quarter. Two divisions: A, 8:00, Mon., Tu., Wed., Th.,; [B, 11:00, Tu., Wed., Th., Fri.]

6a. ALGEBRA II. The same as 5b. Third quarter. Two divisions: A, 9:00, Tu., Wed., Th., Fri.; B, 1:30, Mon., Tu., Wed., Th.

7a. PLANE TRIGONOMETRY—Trigonometric functions and formulæ; logarithmic functions; solution of right and oblique angled triangles; practical applications to surveying, plane sailing and mensuration. First quarter. Two divisions: A, 10:00, Mon., Tu., Thu., Fri.; [B, 11:00, Tu., Wed., Th., Fri.]

7b. PLANE TRIGONOMETRY—The same as 7a. Second quarter. One division, 1:30, Mon., Tu., Wed., Th.

8a. PLANE TRIGONOMETRY—The same as 7a. Third quarter. Two divisions: A, 8:00, Mon., Tu., Th., Fri.; B, 2:30, Tu., Wed., Th., Fri.

8b. PLANE TRIGONOMETRY—The same as 7a. Fourth quarter. One division, 9:00, Tu., Wed., Th., Fri.

9a. ANALYTICAL GEOMETRY I.—Rectangular and polar co-ordinates; examples of loci in general, including the *graphs* of the rational integral function; the circle, ellipse, and hyperbola; tangents, normals, and asymptotes. First quarter. One division, 9:00, Tu., Wed., Th., Fri.

9b. ANALYTICAL GEOMETRY I.—The same as 9a. One division, 10:00, Mon., Tu., Th., Fri.

[10a. ANALYTICAL GEOMETRY I.—The same as 9a. One division, 11:00, Tu., Wed., Th., Fri.]

10b. ANALYTICAL GEOMETRY I—The same as 9a. Two divisions: A, 8:00; B, 1:30; Mon., Tu., Wed., Th.

11a. ANALYTICAL GEOMETRY II.—The discussion of the general equation of the second degree in two variables; higher plane curves; analytic geometry of three dimensions. First quarter. One division, 8:00, Mon., Tu., Wed., Th.

[12b. ANALYTICAL GEOMETRY II.—The same as 11a. Fourth quarter. One division, 11:00, Tu., Wed., Th., Fri.]

[13a. DIFFERENTIAL CALCULUS—Differentiation, Taylor's heorem, indeterminate forms, maximum and minimum; tangents, normals, and asymptotes; curvature and radius of curvature. First quarter. One division, 11:00, Tu., Wed., Thu., Fri.]

13b. DIFFERENTIAL CALCULUS—The same as 13a. Second quarter. Two divisions: A, 8:00, Mon., Tu., Wed., Th.; B, 9:00, Tu., Wed., Th., Fri.

14a. DIFFERENTIAL CALCULUS—The same as 13a. Third quarter. One division, 10,00, Mon., Tu., Th., Fri.

[15b. INTEGRAL CALCULUS — Integration; application of the calculus to problems in geometry, mechanics and physics. Second quarter. One division, 11:00, Tu., Wed., Thu., F.]

16a. INTEGRAL CALCULUS—The same as 15b. Third quarter. Two divisions: A, 8:00, Mon., Tu., Wed., Th.,; B, 9:00, Tu., Wed., Th., Fri.

16b. INTEGRAL CALCULUS—The same as 15b. Fourth quarter. One division, 10:00, Mon., Tu., Th., Fri.

[18a. THEORY OF PLANE CURVES—Continuous with the preceding courses in calculus and including the discussion of singular points, envelopes, involutes and evolutes, roulettes, pedals, etc. Third quarter. One division, 11:00, Tu., Wed., Th., Fri.]

[18b. THEORY OF PLANE CURVES—Similar to 18a. Will occasionally be given in the fourth quarter as an alternate with one of the divisions of 20b. One division, 2:30, Tu., Wed., Th., Fri.]

20b. DIFFERENTIAL EQUATIONS—An elementary course, including the solution of the simpler differential equations to be met in the study of mechanics, physics, etc. Fourth quarter. Three divisions: A, 8:00, Mon., Tu., Wed., Th.; B, 9:00, Tu., Wed., Th., F.; [C, 11:00, Tu., Wed., Th., Fri.]

21a. THEORY OF EQUATIONS—This course and courses 21b, 22a, and 22b are recommended to students, who, having completed one or two years of collegiate mathematics, expect to proceed to the study of higher mathematics. These courses may well be taken in connection with 31 (*32*). First quarter, two hours a week; Tu., Th., at 10:00. DR. WESTFALL.

21b. ANALYTICAL GEOMETRY OF THREE DIMENSIONS —Intended primarily for students who have followed group (C) or group (D). See course 21a. Second quarter, two hours a week; Tu., Th., at 10:00. Dr. WESTFALL.

22a. SPHERICAL TRIGONOMETRY—Open to all students who have finished plane trigonometry. See course 21a. Third quarter, two hours a week; Tu., Th., at 10:00. Dr. WESTFALL.

22b. ANALYTICAL TRIGONOMETRY—Including an introduction to the hyperbolic functions. See course 21a. Fourth quarter, two hours a week; Tu., Th., at 10:00. Dr. WESTFALL.

75 (*76*). GENERAL MECHANICS—This course represents primarily the mechanics of engineering. The first quarter will be devoted to resolution of forces; center of gravity; moment of inertia; friction; the elementary dynamics of a particle; rectilinear and curvilinear motion; energy and work.

In the second, third, and fourth quarters will be studied: the resistance and elasticity of materials; the laws and constants of engineering materials in compression, tension, and shear; simple and cantilever beams; continuous beams; torsive strength of shafting; combined stresses; fatigue of materials; resilience. The subject will be studied as far as possible from a practical as well as a theoretical standpoint; results and formulae being tested by supplementary work in the engineering laboratory. Throughout the year; Mon., Tu., Wed., Th., at 11:00. Professor SMITH.

90. RESISTANCE OF MATERIALS—For civil and sanitary engineers. A series of tests in the engineering laboratory for demonstrating and testing the strength, resistance and properties of the materials of engineering; the ultimate strength, elastic limit, modulus of elasticity, resilience, etc. Supplemented by many practical problems requiring numerical solutions. Second semester, two hours a week; Tu., Th., 2:30. Professor SMITH.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

31. ADVANCED CALCULUS—A continuation of the elementary courses in calculus, devoted particularly to such topics as the extension of Taylor's series, the series of Lagrange, maxima and minima of functions of two or more variables, transformations of differential equations, variations, etc. First semester, three hours a week; Mon., Wed., Fri., at 10:00. Dr. WESTFALL.

32. DIFFERENTIAL EQUATIONS—A general course devoted to the methods of solution of ordinary differential equations. This is a more advanced course than 20b, but is open to all students who have completed any one of the groups (A), (B), (C), or (D). Second semester, three hours a week; Mon., Wed., Fri., at 10:00. Dr. WESTFALL.

35 (*36*). DETERMINANTS AND MODERN GEOMETRY—Determinants, the theory of quantics; the principle of invariance;

modern analytical geometry of two and of three dimensions. Throughout the year; Tu., Th., at 8:00. Professor WELD.

[39 (*40*). THE THEORY OF FUNCTIONS—Lectures, the works of Durège, Harkness and Morley, and others being used by the students for collateral reading. Throughout the year; Tu., Th., at 8:00. Professor WELD.]

[43. DEFINITE INTEGRALS, including a discussion of the the beta and gamma functions. Lectures. First semester, Tu., Th., at 10:00. Professor WELD.]

[44. ELLIPTIC INTEGRALS AND FUNCTIONS — Lectures, with problems and practical applications. Second semester; Tu., Th., at 10:00. Professor WELD.]

60. THE THEORY OF SURFACES, with problems. This and course 66 will be given in alternate years. Second semester, two hours a week; Tu., Th., at 2:30. Dr. WESTFALL.

63. THE METHOD OF LEAST SQUARES, with numerous applications to the reduction of series of physical observation. First semester, two hours a week; Tu., Th., at 2:30. Professor SMITH.

[66. THE MATHEMATICAL THEORY OF LIFE INSURANCE —This and course 60 will be given in alternate years. Second semester, two hours a week; Tu., Th., at 2:30. Dr. WESTFALL.]

81 (*82*). THEORETICAL MECHANICS—Problems in statics and dynamics; virtual velocities; the principle of least action; the dynamics of a particle, with special reference to orbital motion; the theory of attraction. This should be preceded or accompanied by course 31 (*32*). Throughout the year; Tu., Th., at 1:30. Professor SMITH.

99 (*100*). THE MATHEMATICAL SEMINARY is conducted for the benefit of students making a special study of mathematics, and is open to all who have completed elementary calculus. The topics upon which papers are prepared under the direction of the several instructors are such as are suggested by the regular work of the various courses. Throughout the year; Wednesday, 7:30 P. M.

C. COURSES PRIMARILY FOR GRADUATES

49 (*50*). THEORY OF THE POTENTIAL AND SPHERICAL HARMONICS—The potential function; Laplace's equations of continuity in rectangular, cylindrical and spherical coordinates; Green's transformation; velocity potential; plane wave motion;

Fourier's series and integral; application of Fourier's series to problems in acoustics, heat and electricity; physical problems involving cylindrical, zonal and spherical harmonics. This must be preceded by courses 31 (*32*), and 75 (*76*), or their equivalent. Throughout the year; Mon., Wed., Fri., at 11:00. Professor WELD.

55. DIFFERENTIAL EQUATIONS—An advanced course, including the theories of Sophus Lie. This must be preceded by course 31(*32*). First semester; three hours a week; Mon., Wed., Fri., at 2:30. Dr. WESTFALL.

[85 (*86*). HYDROMECHANICS—Laws of pressure, equilibrium, and oscillation of floating bodies; conditions of equilibrium of a mass of rotating fluid, with application to the figure of the earth; equations of motion of a perfect fluid; waves; the motion of a solid in a fluid medium. This must be preceded by courses 31 (*32*), and 75 (*76*), or their equivalent. Throughout the year; Tu., Th., at 1:30. Professor SMITH.]

THE LOWDEN MATHEMATICAL PRIZE

Competition for the Lowden mathematical prize of fifty dollars ($50.00) for excellence in mathematics, established by Mr. Frank O. Lowden, of Chicago, is open to all students who are about to complete in course the work of the freshman and sophomore years in mathematics, the last year of such work having been done at this university in the regular classes.

The examination upon which the prize is to be awarded will be conducted by the professor of mathematics, and will be held in May, not later than the second Saturday preceding the opening of commencement week. Candidates should prepare for examination in the following subjects: Algebra, plane trigonometry, analytical geometry of two dimensions, the elements of differential and integral calculus.

The prize will be awarded by a committee, the members of which shall be the professors of mathematics, engineering, and physics in the State University of Iowa, and two others to be appointed by the president of the university. It may be equally divided between not more than two candidates, or may be withheld if it shall appear that the work of no candidate is of a superior order of merit.

ASTRONOMY

PROFESSOR WELD

The courses in astronomy are open to all sophomores, juniors, and seniors. Those here offered may be taken simultaneously or in succession. Others will be added as soon as necessary arrangements can be made. The university is provided with a small but well equipped students' observatory. (See *Material Equipment*).

101 (*102*). GENERAL ASTRONOMY—A course of lectures on descriptive astronomy for the general student. This course may be supplemented by course 1 (*2*) in geology, which is given at the same hour, on Tuesdays and Thursdays.

Three lectures a week, throughout the year; Mon. Wed., Fri., at 9:00.

105 (*106*). PRACTICAL ASTRONOMY—The student is taught the use of the sextant, transit instrument, clock, chronograph, etc.; the arrangement of the *American Ephemeris and Nautical Almanac;* and the general principles of time, latitude, longitude, and azimuth determination.

Throughout the year; Tu., Th., at 9:00; supplemented by work at the observatory.

CIVIL ENGINEERING

PROFESSOR SIMS; MR. LAMBERT, MR. SHAFF.

The civil engineering and general scientific courses are practically identical throughout the freshman year, and changes may be made from one of these courses to the other until the beginning of the sophomore year; but after this time no subjects can be substituted for the required civil engineering studies without the approval of the professor in charge, and special permission of the faculty. Students in one class will not be allowed to take subjects in an advanced class without permission of the professor in charge.

As far as possible instruction is given by recitation from text-books. But where this method is not practicable, as in limes and cements, and in some of the subjects treated under the head of civil engineering, the first part of the recitation period is devoted to a quiz, and the remainder to a lecture.

Saturdays, throughout the last three years of the course, are devoted to work in the field, shop, and laboratories, to mak-

ing surveys, testing materials, constructing models, photography, and blue-printing.

For all work requiring no special preparation outside of the class room, such as drawing, field work, laboratory exercises and some of the work in graphical statics, not less than two hours will be required for one hour of credit.

The laboratories and draughting rooms of the departments of engineering are described among the other laboratories under the general heading, Material Equipment.

FRENCH OR GERMAN—Courses 1 (*2*) in French, and courses 1 (*2*) in German. (See departments of French and German in this announcement.)

Freshman year; five hours a week.

MATHEMATICS—One of the groups (A), (B), (C) in mathematics must be completed.

Freshman and sophomore years; four hours a week.

PHYSICS—Courses 1 (*2*), 5, 6, and 10 in physics.

Freshman year; four hours a week. Junior year, first semester, two hours a week; second semester, three hours a week.

DRAWING—Course 1 (*2*) in drawing. See courses in municipal and sanitary engineering.

ENGLISH—Courses 1 (*2*), and 21 (*22*) in English.

Sophomore year, two hours a week; junior year, three hours a week.

3. SURVEYING, MAPPING, AND LETTERING—This course is for civil, municipal and sanitary, and mining engineering students, and comprises the construction, adjustment, and use of the compass, solar compass, level, transit, and plane-table. Recitations, lectures, and field work; making profiles, leveling, and drainage surveys. A section of land is surveyed, and the location of all natural and artificial features determined and noted.

Pen topography, including the making of topographical symbols, platting of section survey from notes taken during the previous term, and making a finished map of the same. United States public land surveys; determination of true meridians; rules and Supreme Court decisions governing resurveys and relocations of lost or obliterated corners. This work is followed by a course in free hand on mechanical lettering. Mr. LAMBERT.

Sophomore year, first semester; five times a week.

CHEMISTRY—Course 1 in chemistry.

Sophomore year, first semester; four hours a week.

GEOLOGY—Course 1 (*2*) in geology.

Sophomore year; two hours a week.

4. DESCRIPTIVE GEOMETRY, AND TOPOGRAPHICAL SURVEYING—After the completion of course 3, this course is taken up and includes, in the descriptive geometry, work in problems on the point, line, plane, simple geometrical solids, shades, shadows, single and double curves, and warped surfaces, generation and development, and the solution of various practical problems, illustrated by models. In topographical surveying the work includes a study of the adjustments and methods of use of the stadia, gradienter, plane table, etc., and the making of finished contour maps from notes of surveys made by the students, with above mentioned instruments. During the winter months, the time is devoted largely to descriptive geometry and drawing, and in the spring and early summer to field work in topographical surveying. Mr. LAMBERT.

Sophomore year, second semester; four times a week.

5. EARTH WORK AND RAILWAY CURVES—A study of simple and compound curves and turnouts, and the methods of laying out, measuring, and computing earth work and over-haul. Enough practice is given to familiarize the student with the methods employed in the field. Mr. LAMBERT, and Professor MAGOWAN.

Sophomore year, second semester; two hours a week.

6 (*7*). SHOP WORK—In this course work is taken up systematically, and each student is required to finish in a satisfactory manner a specified number of pieces of work on each machine-tool and at the bench. The main object of the course is to familiarize the student with the nature, strength, and properties of materials, and the methods employed by the mechanic artist rather than to have him attain skill as a workman. Mr. SHAFF.

Sophomore year, second semester; two times a week. Junior year, first semester; two times a week.

ANALYTICAL AND APPLIED MECHANICS—Course 75 (*76*) in mathematics.

Junior year; four hours a week.

9 (*10*). GRAPHICS—The course is so arranged that the study of the graphical method of determining stresses is taken

up simultaneously with the analytical method, it being the intention to assist the student to secure a mental photograph of the amount and kind of stress in the various members of structures and thus provide him with a ready and impressive means of their comparison. The analysis, by this method, of roof trusses is first taken up, followed by that of the plate girder, simple cantilever, and swing bridges, with parallel and inclined chords, under various conditions of loading as required in the standard specifications, both for actual wheel concentrations and equivalent uniform loads; after which a course in metal and masonry arches is given. Mr. LAMBERT.

Junior year, first semester, two hours a week; second semester, four hours a week.

11 (*12*). THEORY OF STRESSES—Including the analytical determination of stresses and strains in all the structures analyzed by the graphical method. See graphics. Much time and study are devoted to this important subject. Professor SIMS, and Mr. LAMBERT.

Junior year, first semester, two hours a week; second semester, four hours a week.

ELECTRICAL ENGINEERING—Course 7 in electrical engineering. See the statement of courses in that department.

13. LIMES AND CEMENT—The instruction in this subject consists in assigned references, and a course of lectures on the principal properties of limes, hydraulic limes, and natural and artificial cements, with a general discussion of the nature and uses of concrete, followed by laboratory work. Each student is required to make and test briquettes of various cements, which will be furnished him for the purpose, and to calculate their relative value per unit of strength. Professor SIMS.

Senior year, first semester; two hours a week.

STEAM ENGINEERING AND THERMODYNAMICS — Course 107 in electrical engineering. See the statement of courses in that department.

SEWERAGE AND SANITATION—Course 17 in municipal and sanitary engineering.

19 (*20*). STRUCTURAL DESIGNING—Prior to taking up the work of designing proper, the students are required to make tracings or drawings of existing structures and compare the sections and connections of the various members with standard specifications. This work is followed by the design of trestles,

highway and railway bridges, dams, foundations, etc., of which complete working drawings are made. Professor SIMS.

Senior year, three hours a week.

21 (*22*). CIVIL ENGINEERING—This subject is given by recitations and lectures, and is designed to afford instruction in the practical application of the theoretical principles of civil engineering. The regular recitations and lectures are frequently interrupted by the presentation of designs and estimates of the cost of the work under discussion. The subjects are treated with a thoroughness commensurate with their relative importance and are: railway reconnaissance and location; theory of maximum economy in grades and curves; location of highways and resistance to traction thereon; hydrography; building materials; natural and artificial stones; quarrying and blasting; reaching deep foundation beds in earth, quick sand, water and silt, with pneumatic tubes, caissons and coffer dams, and by the Poetsch-Sooysmith freezing process; ordinary earth work and methods of computation; masonry, classification of and specification for; theory and practice of retaining walls; earth, loose rock, and high masonry, and concrete arches; tunnelling and the use of explosives; highway and street construction; railway construction and maintenance of way; improvement of rivers and harbors, and canal transportation; street railways, and comparison of street railway motors. Professor SIMS.

Senior year; three hours a week.

23 (*24*). LABORATORY—This course includes instruction and practice in more advanced methods of testing and original investigation; selection and preparation of specimens; the influence of cross section on unit stress under various conditions; the distribution of stress in the materials of construction; the determination of resistance; the construction of models of bridges and other structures. Professor SIMS.

Senior year, two hours a week.

25. SPECIFICATIONS AND CONTRACTS—A study of various standard specifications, and a discussion of the effect of general clauses in contracts of same. Professor MAGOWAN.

Senior year; first semester; two hours a week.

(This course will soon be replaced by courses in political economy and engineering jurisprudence, running through the year.)

STRENGTH AND RESISTANCE OF MATERIALS—Course 90 in mathematics. See the statement of courses in that department.

HYDRAULICS—Course 28 in municipal and sanitary engineering.

WATER SUPPLY ENGINEERING—Course 30 in municipal and sanitary engineering.

32. THESIS—At the close of the senior year, an acceptable original thesis will be required from each student before graduation, unless equivalent work shall have been done on papers prepared for the Engineering Society. Professor SIMS.

MUNICIPAL AND SANITARY ENGINEERING AND DRAWING

PROFESSOR MAGOWAN

The department of municipal and sanitary engineering was created in June, 1903. The new department was also made responsible for the work in drawing. A course in municipal and sanitary engineering has been organized and is tabulated among the scientific and technical courses. Outlines of the instruction in numerous subjects common to this and the course in civil engineering will be found above under the heading *Civil Engineering*. Such subjects as have been either definitely or temporarily assigned to the chair of municipal and sanitary engineering are outlined below. The numbering of old courses is the same as in previous announcements.

1 (*a*). MECHANICAL DRAWING—For general scientific, civil, electrical, mining and sanitary engineering students. The course comprises geometrical drawing; oblique, cabinet, isometric and orthographic projections; lettering; linear perspective, shades and shadows. The work is given principally by means of personal instruction. The preliminary principles are studied in text and reference books, and these principles are applied in making drawings in accordance with the specific enunciations of problems, and drawings of natural objects, models and machinery.

Freshman year; two hours a week.

17. SEWERAGE AND SANITATION—The work offered in this course includes principally sewers and sewerage, and the cleaning of cities and towns. The separate and combined systems of sewers are studied and discussed. The details of various sewer systems, as set forth in plans and specifications for their construction, are carefully studied. The cost of construction, as taken from current contract prices, is especially noted, and the arrangement and action of plumbing fixtures are inci-

dentally studied. The growing importance of this subject is fully realized, and it is the intention to keep the instruction fully abreast of the demands and needs of the present, and, when possible, to anticipate future needs and methods. Professor MAGOWAN.

Senior year, first semester; two hours a week.

28. HYDRAULICS—Instruction in this work is given by means of lectures, recitations, and laboratory work. The course includes the weight and pressure of water; head and center of pressure; computation and measurement of velocity and discharge through orifices, weirs, pipes, conduits, canals, and rivers; the investigation of meters and motors, and the determination of water power. Professor MAGOWAN.

Senior year, second semester; three hours a week.

30. WATER SUPPLY ENGINEERING — A study of the methods of collecting, storing, purifying, and distributing water. Professor MAGOWAN.

Senior year, second semester; two hours a week.

41 (*42*). PAVEMENTS AND ROADS—A study of the means, methods and materials of the construction of city streets and walks, and country highways, and the maintenance of the same; the desirability and cost of the various kinds of construction, together with a consideration of street grades and cross sections, methods of cleaning, methods of assessing costs of construction, and kindred subjects. Professor MAGOWAN.

Senior year, second semester; two hours a week.

51 (*52*). SANITARY INSPECTION, DESIGN AND CONSTRUCTION—A study of plumbing, water supply, and waste removal; fixtures and appliances within the dwelling; designs for special problems. Also designs and estimates of costs of water supply and sewerage systems and purification plants. Professor MAGOWAN.

Senior year, second semester; two hours a week.

CHEMISTRY — Courses 1 (*2*), 21 (*22*) in chemistry. The work of course 21 (*22*) will be specially arranged to meet the requirements of students of sanitary engineering.

Sophomore and junior years; four hours a week.

GENERAL BIOLOGY—Course 1 (*2*) in animal morphology and physiology, the work for students in sanitary engineering being given with reference to the requirements of the special course in bacteriology for such students.

Senior year; two hours a week

BACTERIOLOGY—This is course 21 (*22*) in the department of pathology and bacteriology. It will include methods of air, water, and sewage analysis; identification and classification of bacteria and allied organisms; the methods of their separation and cultivation, and their relation to health and disease. The course must be either preceded by, or taken in connection with the course in general biology.

Other courses in sanitary science will be offered as soon as the necessary arrangements can be made.

ELECTRICAL AND MECHANICAL ENGINEERING

ASSISTANT PROFESSOR WELLS

This department was created in June, 1903, a course in electrical engineering having been offered previously in the department of physics. The course in mechanical engineering is now offered for the first time.

The lecture rooms and offices of this department are on the top floor of the armory building and are ample for the work. The lower floor of this building, formerly used as the central heating plant, has been entirely remodeled for an electrical laboratory. It contains a dark room for photometry and photography, a large storage battery room, instrument room, stock room and a main room containing over half the floor area, in which most of the experimental work will be carried out.

Apparatus has been installed, more will be added during the summer, and the laboratory will be amply equipped at the opening of the next collegiate year.

The laboratory is supplied with direct current at 110 and 220 volts from the central heating and lighting plant and will be connected to the 110 volt alternating current city supply. Besides the equipment of the department for general electrical tests and measurements, machinery of the central heating plant, consisting of three 100 horse power and one 15 horse power boilers, with two 40 kilowatt direct current generators directly connected to a 125 horse power high speed engine, is available for the experimental work of the department. Six dynamos of various sizes and types in the physical laboratory are also available.

Plans are being made for the development of the Terrill water power of 900 horse power which has given to the university

for the benefit of the school of applied science. This will furnish abundant power for electrical testing and research on a commercial scale and the department will take full advantage of the facilities.

The facilities for the study of electrical and mechanical engineering problems upon a practical scale, will be further increased upon the completion of the inter-urban electric railway now under construction between Iowa City and Cedar Rapids. The opening of this and other proposed lines will, in the near future, bring within easy reach of the university the power and manufacturing plants of many of the neighboring cities and towns.

A laboratory of thermodynamics, and steam and hydraulic engineering will be established as soon as possible for the work in mechanical engineering.

The courses in electrical engineering and in mechanical engineering are the same for the first two years. They both include one full year of French or German in the freshman year; English in the freshman, first half of the sophomore, and second half of the junior years; physics throughout the first two years; mathematics and drawing through three years, and chemistry for two years.

In the course in electrical engineering, work in the department of electrical engineering begins in the middle of the sophomore year and continues through the course, becoming larger in amount, and more technical as the student advances through the junior or senior years. Electrical engineering courses, 2 to 6, and 9 to 14 are required.

In the course in mechanical engineering, the professional work begins in the junior year, with machine design, and steam engineering, and continues through the course, occupying over half the student's time in the senior year.

A. COURSES FOR UNDERGRADUATES

2. ELEMENTARY PRINCIPLES OF ELECTRICAL AND MAGNETIC THEORY, use of instruments and theory of elementary tests.

Two hours; second semester. Assistant Professor WELLS.

3 (*f*). ELEMENTARY ELECTRICAL LABORATORY—Practice of the simpler tests and measurements.

Two hours; through the year. Tu., Th.; 1:30 to 4:00. Assistant Professor WELLS.

5. INTRODUCTION TO THE MATHEMATICAL THEORY OF ELECTRICITY AND MAGNETISM, AND SOLUTION OF PROBLEMS.

Three hours; first semester. Mon., Wed., Fri., at 10:00. Assistant Professor WELLS.

6. THEORY AND OPERATION OF ELECTRICAL MACHINERY—The emphasis will be laid on the continuous current dynamo. Problems will be assigned on dynamo calculations and windings.

Three hours; second semester. Mon., Wed., and Fri., at 10:00. Assistant Professor WELLS.

7. ELEMENTS OF ELECTRICAL ENGINEERING—Intended for juniors in engineering courses other than electrical and mechanical engineering. It will include brief treatments of generators, motors, batteries, etc., and the industrial applications of electricity.

Three hours; first semester. Assistant Professor WELLS.

8. ELEMENTARY ELECTRICAL LABORATORY—This is arranged to follow and supplement 7.

Two hours; second semester. Assistant Professor WELLS.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

9 (*10*). THEORY OF ELECTRICITY AND ITS INDUSTRIAL APPLICATION—Most of the time will be spent on alternating currents. The telephone, telegraph, and the generation, transmission, and distribution of electrical energy for lighting, traction, and power will be considered.

Five hours, through the year. Mon., Tu., Wed., Th., Fri., at 9:00. Assistant Professor WELLS.

11 (*12*). ADVANCED ELECTRICAL LABORATORY. A continuation of 8 (*4*). The work is more difficult and greater precision will be required. The course will include measurements of alternating current, photometry, magnetic testing and testing of machinery. Trips may occasionally be made to neighboring installations, as part of the requirement in courses 9 to 12.

Mon., Wed., Fri.; 1:30 to 4:00.

13 (*14*). THESIS. The scope of this will be varied to meet the needs and preferences of the individual student. To be

accepted it must be approved as to subject matter and clearness and accuracy of expression.

The equivalent of 2 hours through the year. Assistant Professor WELLS.

C. COURSES FOR GRADUATES ONLY

15 (*16*). LECTURES ON THE MATHEMATICAL THEORY OF ELECTRICITY AND MAGNETISM—Only properly prepared students will be admitted to this course.

Three or more hours through the year. Assistant Professor WELLS.

17 (*18*). RESEARCH—Opportunities for research in electricity and magnetism will be provided, so far as the facilities of the department allow, for all properly qualified members of the graduate college who desire it. Assistant Professor WELLS.

In addition to the courses announced, students desiring it will have the assistance of the department in the reading of electrical subjects. If there is a demand for them, other courses in the theory of electricity and in electrical engineering will be arranged if possible.

MECHANICAL ENGINEERING

A. COURSES FOR UNDERGRADUATES

101 (*102*). THERMODYNAMICS AND STEAM ENGINEERING.

Three hours, through the year.

107. THERMODYNAMICS AND STEAM ENGINEERING—A brief course for students in technical departments other than mechanical engineering.

Three hours; first semester.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

109 (*101*). THEORY AND APPLICATION OF PRIME MOVERS.

Five hours, through the year.

111 (*112*). THERMODYNAMICS AND HYDRAULIC LABORATORY.

Three hours, through the year.

113 (*114*). THESIS.

Two hours through the year.

MILITARY SCIENCE AND TACTICS

COLONEL GEORGE RITTER BURNETT,—WEST POINT '80
(First Lieutentant U. S. Army, Retired)

Instruction in these branches is prescribed for all male students of the college of liberal arts, except such as are especially excused. Students who, for any valid reason, may desire to be excused, must appear in person before the military committee, consisting of the commandant, assistant commandant, and four other members of the faculty, on the first drill day of each term, at the armory at 3:30 p. m. Those claiming exemption on account of physical disability, when the same is not apparent, must present to the committee a certificate from the battalion surgeon. certifying to the same. Students desiring to be excused from military duty at the time of their entrance or at any future time, on the grounds of service in the Spanish-American War, or at some recognized military institution, must present their discharge papers or credentials at the time of matriculation. All students not especially excused will report to the commandant on the Monday immediately following the beginning of the semester, at the armory, at 4:30 p. m.

A new twenty-five thousand dollar armory is now being constructed by the board of regents and will be ready for occupancy at the opening of the year 1904-1905. The new armory will afford ample facilities for the full course of military instruction prescribed by the War Department.

ORGANIZATION

The department is organized for instruction into an infantry battalion, consisting of four companies, a band, and the necessary staff officers. The commissioned officers are selected from the senior, the sergeants from the junior, and the corporals from the sophomore class. The officers and non-commissioned officers are selected for character, military record, knowledge of drill regulations, and general aptitude.

UNIFORM

The prescribed uniform, known as the undress or fatigue uniform, consists of a dark blue suit, and, with the regulation army cap and white gloves, is worn on all occasions when on duty. The above uniform can be procured either before or immediately after entrance. Uniforms can be obtained in the vicinity at a cost of from $10.50 to $13.50.

COURSES OF INSTRUCTION

Courses of instruction are both practical and theoretical.

The *practical* course is as follows: Infantry Drill Regulations through the school of the battalion in close and extended order. Advance and rear guards, and out-posts. Marches The ceremonies of battalion review, inspection, parade, guard-mounting and escort to the colors. Infantry target practice. Instruction in first aid to the injured.

The practical instruction in infantry drill, for all classes, will be given three hours a week during the spring and fall quarters, and one hour a week during the winter quarter, from 4:30 to 5:30 P. M.

Target practice, after preliminary instruction in gallery practice in the armory is had, will take place on the university range, to the extent of the allowance of ammunition, on favorable afternoons, during the fall and spring quarters at such hours as the commandant may deem most convenient.

First aid to the injured will be given during the winter quarters in the armory, as part of the regular drill.

The *theoretical* instruction will only be given during the winter term, and will consist of two hours recitation a week, for each class, in the afternoons, at such hours as the commandant may arrange. The freshmen will be instructed in the United States drill regulations; the sophomores in the *Manual of Guard Duty*; the juniors in the *Small-arms Firing Regulations*, Parts 1, 2, and 7, and in the *Articles of War*, with special reference to certain paragraphs designated by the War Department, and the seniors in keeping the following records: enlistment and discharge papers, including descriptive lists; morning reports; field and monthly returns; muster rolls; rosters; ration returns; requisitions; property returns. The seniors will also be required to act as assistant instructors.

Aside from the seniors selected for commissioned officers, the work of the fourth year is optional.

The professor of military science and tactics may, in his discretion, substitute for a part of the theoretical instruction, lectures on subjects of military interest, not to exceed one a week.

One and two-thirds semester credits will be allowed for each year of military work, provided at least three years of the full course are taken.

The credits allowed for the military course are essential to graduation, and cadets who, for any reason, are excused from this work, must earn an equivalent amount in electives, offered by the college of liberal arts.

ORGANIZATION OF THE MILITARY DEPARTMENT

THE BATTALION—1903-1904

Colonel George Ritter Burnett, - - Commandant
Major H. E. Spangler, - - Assistant Commandant

COMMISSIONED STAFF

Major J. G. Mueller, - - - - Surgeon
Major J. F. Kirby, - - Inspector of Rifle Practice
First Lieutenant H. M. Pratt, - - Quartermaster
First Lieutenant F. D. Kern, - - - Adjutant
Second Lieutenant H. G. Walker, - Commissary Officer
Second Lieutenant D. S. Welch, - Ordnance Officer

NON-COMMISSIONED STAFF

E. C. Barrett, - - - - Sergeant-Major
F. E. Snedicor, - - - Quartermaster Sergeant
H. L. Moon, - - - Commissary Sergeant
C. R. Carlson, - - - - Ordnance Sergeant

COLOR GUARD

B. F. Wyland, - - - - Color Sergeant
E. R. Blakely, }
E. H. Sieman, } - - - - - Sergeants

COMPANY A

B. A. Moffatt, - - - - - Captain
J. W. Cogswell, - - - - First Lieutenant
B. S. Allen, - - - - Second Lieutenant
R. B. Champion, - - - First Sergeant

1 H. H. Phelps,
2 F. J. Beatty,
3 R. R. Randall,
4 R. Files,
5 F. S. Morgan,
6 I. I. Struble, } - - Sergeants

1 H. H. Brainerd,
2 R. P. Fullerton,
3 R. O. Hutchinson,
4 P. M. Payne,
5 R. F. Hannum,
6 F. C. Lemon, - - - - - Corporals

COMPANY B

E. R. Johnston, - - - - - Captain
H. S. Welch, - - - - First Lieutenant
P. Dorweiler, - - - - Second Lieutenant
H. E. Boies, - - - - - First Sergeant

1 H. T. Phelps,
2 A. C. Gordon,
3 O. V. Wille,
4 W. T. Brinton,
5 J. E. Negus,
6 J. W. Meyer, - - - - - Sergeants

1 H. W. Gregory,
2 W. D. Middleton,
3 R. E. Jones,
4 G. E. Easton,
5 G. S. Banta,
6 H. M. Pahlas, - - - - - Corporals

COMPANY C

W. F. Hellberg, - - - - - Captain
R. E. Kleinsorge, - - - - First Lieutenant
V. T. Neander, - - - - Second Lieutenant
M. W. Emmert, - - - - - First Sergeant

1 D. F. Steck,
2 G. A. Drake,
3 H. E. Young,
4 C. W. Knapp,
5 W. Aardappel,
6 B. B. Burnquist, - - - - - Sergeants

1 H. C. Anderson,
2 N. S. Bevins,
3 P. D. Macbride,
4 A. F. Weinrich,
5 W, B. Joy,
6 T. T. Rider, - - - - Corporals

COMPANY D

C. P. Schenck, - - - - - Captain
E. R. Jackson, - - - - - First Lieutenant
C. E. Moffitt, - - - - - Second Lieutenant
W. W. Fay, - - - - - First Sergeant

1 R. H. Finkbine,
2 R. G. Davies,
3 H. E. Danielson,
4 J. A. Shaw,
5 R. Schroder,
6 H. A. Naberhuis, - - - - Sergeants

1 F. E. Koeper,
2 H. T. Price,
3 G. Bos,
4 C. R. Duncan,
5 R. F. French,
6 K. A. Pritchard, - - - - Corporals

THE BAND

Captain F. R. Molsberry, - - - - Director
R. V. Mills, - - - - - Drum Major
M. E. Wilson, - - - - Chief Musician

Military Field Day, May 23, 1903.

The "Coast Sword," awarded annually to the captain of the best drilled company, was won by Captain H. E. Spangler, Company "C".

The "Colonel George R. Burnett Gold Medal" for superiority in marksmanship for 1903, was awarded to Major E. M. Turner, Inspector of Rifle Practice.

The "H. J. Wieneke Gold Medal" for excellence in infantry drill for 1903, was awarded to Captain Francis Nugent, Company "A".

The "C. Yetter Gold Medal" No. 1, for the best drilled junior in 1903, was awarded to Cadet Sergeant J. W. Cogswell, Company "A".

The "C. Yetter Gold Medal" No. 2 for individual superiority in drill among the sophomores, was awarded to Cadet Corporal H. E. Boies, Company "A".

The "Sueppel Gold Medal" for individual excellence in drill, competed for by the freshmen, was awarded to Cadet G. C. Albright, Company "C".

PHYSICAL TRAINING

PROFESSOR CHALMERS, AND MISS KASTMAN

It is the policy of the university to furnish physical training for all its students. This policy is being carried out in the women's department, since physical training is required of all during the freshman and sophomore years.

In view of the fact that the new armory will contain ample space and accommodation, and be thoroughly equipped also for physical training, a long-felt want will be satisfied. With a large gymnasium, completely equipped with apparatus, and a splendid indoor track, together with dressing rooms, lockers, and baths, the university will offer ample means for the physical training of its students, and the development of its indoor athletics.

Classes in physical training are provided for women under the instruction of Miss Kastman. Each section meets three times a week. This work is required of all women of the freshman and sophomore classes in the college of liberal arts, and is open to unclassified students whose work is with these classes, and who are intending to classify as soon as possible, and work toward a degree. Students may, however, be excused by the faculty for physical disability, certified to by a physician, or on account of outside work which the student must do to earn her living, and which conflicts with the hours scheduled for physical training classes. Petitions for such excuses should be presented to the dean of women.

Credit will be allowed for the two years of required work in this subject.

Women in the upper classes and in the other colleges will be allowed to elect this work. They may obtain credit on the

same terms as freshmen and sophomores, provided that their total credit for physical training shall not exceed 4 (four) semester hours.

Each student must provide hesrelf with a gymnasium suit to be worn during all class exercises in this subject. It must be made of black alpaca or serge, with full bloomers, and blouse waist with sailor collar, opening in V-shape at the neck over a chemisette of white pique, or other washable material. There must be no braid, or other trimmings. Butterick's pattern No. 4509 may be used as a guide in making the suit. A plain black belt, black stockings, and gymnasium shoes complete the costume.

ACCREDITED HIGH SCHOOLS

The board of regents has adopted the following plan for general high school inspection:

1. Any school may be placed upon the accredited list upon application of its superintendent or principal, and its board of directors, provided the faculty of the college of liberal arts is satisfied as to its (*a*) course of study, (*b*) methods of teaching, (*c*) facilities for instruction.

2. The course of study of such a school must be adapted to fitting its graduates for one or more of the collegiate courses of the university, or it must be in the direct line of such preparation.

3. All accredited schools shall be inspected at the pleasure of the university, the expense of the inspection to be borne by the university.

4. The authorities of accredited schools should report annually to the university all changes made in the courses of study and submit a list of names of the instructors employed in the high school with subjects taught by each.

The following revised rules governing the accrediting of high schools have been adopted by the faculty of the college of liberal arts, and are now in force. The attention of the authorities of accredited schools is called to the revised rules in order that they may make such changes in their courses of study and in their plans of work as will enable them fully to conform to the rules.

RULES GOVERNING THE ACCREDITING OF HIGH SCHOOLS

High schools meeting the following conditions may, at the option of the faculty of the college of liberal arts, be accredited as making full preparation for one or more college courses; and graduates of such schools will be admitted to the university without being subject to examination in those preparatory subjects for which proper certificates are presented.

1. The course of study should not be less than four years of thirty-six weeks each in length, following an elementary course not less than eight years in length.

2. The course of study should require of each pupil not more than four recitations daily.

3. The entire time of at least three teachers should be given to instruction in high school branches.

4. The quality of the instruction given and the character of the text-books used should be approved by the faculty.

5. Schools seeking considerable credit in science should demonstrate their ability to do successful laboratory work.

6. Schools seeking considerable credit in history and English should give evidence of a special laboratory equipment for teaching these branches.

Private academies, seminaries. normal schools, or other secondary schools meeting the conditions mentioned above, or their equivalent, may be accepted on the same basis as high schools.

LIST OF ACCREDITED SCHOOLS

There are doubtless other schools which are entitled to places on one or the other of these lists, but because they have not furnished the data necessary to enable the university authorities to come to a safe conclusion in regard to their proper places in the lists, or because they have not signified a desire to come into accredited relations with the university, they are for the present omitted, without prejudice. Applicants presenting themselves from secondary schools not included in the list of accredited schools will be admitted only upon examination.

The following schools have been accredited by the faculty of the college of liberal arts as making full preparation for one or more of the courses of the college of liberal arts:

HIGH SCHOOLS

Ackley,
Adel,
Albia,
Algona,
Ames,
Anamosa,
Atlantic,
Audubon,
Avoca,
Bedford,
Belmond,
Boone,
Britt,
Brooklyn,
Burlington,
Capital Park, Des Moines,
Carroll,
Cedar Falls,
Cedar Rapids,
Centerville,
Chariton,
Charles City,

Cherokee,
Clarinda,
Clarion,
Clinton,
Columbus Junction,
Corning,
Corydon,
Council Bluffs,
Cresco,
Creston,
Davenport,
Decorah,
Denison,
Des Moines, E.,
Des Moines, N.,
Des Moines, W.,
Dubuque,
Eagle Grove,
Eldora,
Emmetsburg,
Estherville,
Fairfield,
Forest City,
Fort Dodge,
Fort Madison,
Geneseo, Ill.,
Glenwood,
Greene,
Greenfield,
Grinnell,
Grundy Center,
Guthrie Center,
Guthrie County, Panora,
Hamburg,
Hampton,
Harlan,
Humboldt,
Ida Grove,
Independence,
Indianola,
Iowa City,
Iowa Falls,
Jefferson,
Keokuk,
Knoxville,
Lake City,
Lamoni,
LeMars,
Leon,
Lyons,
Manchester,
Manning,
Maquoketa,
Marengo,
Marion,
Marshalltown,
Mason City,
McGregor,
Missouri Valley,
Moline, Ill.,
Montezuma,
Monticello,
Mt. Ayr,
Muscatine,
Nashua,
Nevada,
New Hampton,
Newton,
Odebolt,
Oelwein,
Onawa,
Orange City,
Osage,
Osceolà,
Oskaloosa,
Ottumwa,
Parkersburg,
Perry,
Postville,
Red Oak,
Reinbeck,
Rockford,

Rock Rapids,
Sanborn,
Sheldon,
Shenandoah,
Sibley,
Sidney,
Sigourney,
Sioux City,
Sioux Falls, S. Dak.,
Sloan,
Spencer,
Storm Lake,
Stuart,
Taylor Tp., Taylorville, Ill.,
Tipton,
Traer,
Villisca,
Vinton,
Washington,
Waterloo, East,
Waterloo, West,
Waukon,
Waverly,
Webster City,
West Liberty,
West Union,
Wilton,
Williamsburg,

OTHER SCHOOLS

Cedar Valley Seminary, Osage,
Charles City College Academy,
Decorah Institute,
Denison Normal School,
Dexter Normal College,
Epworth Seminary,
Howe's Academy, Mt. Pleasant,
Iowa City Academy,
Jewell Lutheran College, Jewell,
Lincoln Academy, Lincoln, Neb.,
Michigan Military Academy, Orchard Lake, Mich.,
Mount St. Joseph Academy, Dubuque,
Northwestern Classical Academy, Orange City,
Sac City Institute,
St. Agatha's Seminary, Iowa City,
St. Francis Academy, Council Bluffs,
St. Mary's, Iowa City,
Washington Academy,
Whittier College, Salem,
Wilton German - English College,
Woodbine Normal School.

The work done in the schools named below is regarded as of sufficient merit to entitle them to recognition by the university. In some of these schools enough work is done to entitle their pupils to enter the university with the conditions allowed.

All accredited schools having but two teachers in the high school are expected to work under the rules prescribed for such schools by the university and the colleges of the state. These rules are set forth at length in Bulletin No. 2 of the department of education, a copy of which will be sent on application.

Properly certified work from these schools will be received for the present so far as this work meets the preparatory requirements of the university.

Adair,
Allerton,
Alton,
Anita,
Bloomfield,
Brighton,
Charter Oak,
Clearfield,
Clear Lake,
Colfax,
Coon Rapids,
Correctionville,
De Witt,
Dysart,
Eldon,
Elkader,
Farmington,
Fayette,
Fonda,
Fontanelle,
Garner,
Glidden,
Grand Junction,
Hartley,
Hawarden,
Holstein,
Hubbard,
Keosauqua,
Kingsley,
Lake Mills.
Lime Springs,
Mapleton,
Mechanicsville,
Milton,
Morning Sun,
Moulton,
Mt. Pleasant,
Neola,
New Sharon,
North English,
Northwood,
Oak Park, Des Moines,
Pella,
Riceville,
Richland,
Rockwell City,
Rolfe,
Sac City,
St. Ansgar Seminary,
Shelby,
Shell Rock,
Sioux Rapids,
Springdale,
Springville,
State Center,
Tabor,
Tama City,
Wapello,
Winfield,

UNIVERSITY EXTENSION

The State University of Iowa was among the first in the United States to attempt to popularize higher education by organizing courses of lectures by university professors at points remote from the institution. For years this work has been carried forward with no small success in all the more important cities of Iowa. As will be seen by reference to the special announcement on this subject, the university offers an unusually extended list of topics to those seeking lectures of university grade. Within certain obvious limits, all the best that is offered at Iowa City,is at the service of every community in Iowa.

In connection with the courses of lectures offered, classes may be organized and systematic work undertaken leading in due process to university credit.

Many of the lectures, especially those pertaining to subjects scientific, are illustrated, and, with little additional cost, a stereopticon is sent with the lecturer to any center

All interested are referred to the announcement of university extension lectures, to be had by addressing the Secretary or the Director of University Extension, Iowa City, Iowa.

GRADUATE COLLEGE

THE GRADUATE COLLEGE

†FACULTY

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams, B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895; Williams.

President, 1899.* 603 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth, LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
82 Bloomington St. (108 Liberal Arts)

SAMUEL CALVIN, M. A., 1874, Cornell College; F. G. S. A., PH. D., 1888, Lenox.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A.. 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

LAUNCELOT WINCHESTER ANDREWS, B. PH., 1875, Yale; M. A., PH. D., 1882, Goettingen.

Professor and Head of the Department of Chemistry, 1885.
251 S. Johnson St. (Chemical Laboratory)

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D. 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and Head of the Department of Philosophy, 1887.
704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

†The faculty of the University numbers over one hundred and eighty professors, instructors and assistants. The following list contains the names of those in the departments offering courses of instruction for graduate students.

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor and Head of the Department of Physics, and Secretary of the Faculty of the College of Liberal Arts, 1893.
707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, and Director of the School of Applied Science, 1896.
612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1896.
922 E. Washington St. (304 Science Hall)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.
11 E. Bloomington St. (205 Liberal Arts)

*ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A.. 1901, Amherst; M. D., 1895, Iowa.

Professor of Chemistry and Toxicology, and Secretary of the Faculty of the College of Medicine, 1898.
1011 Woodlawn. (Chemical Laboratory)

WALTER LAWRENCE BIERRING, M. D., 1892, Iowa.

Professor of Theory and Practice and Clinical Medicine, 1893.
Cor. Governor St. and Iowa Ave. (1 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Head of the Department of History, and Professor of American History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1898. 309 Church St. (120 Liberal Arts)

ALFRED VARLEY SIMS, C. E., 1888, Pennsylvania.

Professor and Head of the Department of Civil Engineering, 1895.
Bloom Terrace. (Engineering Hall)

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Morphology and Physiology, 1892. 422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895.
219 N. Clinton St. (202 Liberal Arts)

*Absent on leave, 1903-1904.

WILLIAM ROBERT WHITEIS, B. S., 1892; M. D., 1895; M. S. 1895, Iowa.
Professor of Histology and Embryology in the College of Medicine, 1898. 220 S. Johnson St.
(Histological Laboratory—16 Liberal Arts)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.
Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE CALL, B. A., 1880; M. A., 1883, Iowa.
Professor of Greek Language and Literature, 1885.
21 N. Dubuque St. (106 Liberal Arts)

THE REV. HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.
Professor of Public Speaking, 1900.
808 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.
Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty; 1900.
7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.
Professor and Head of the Department of Education; Director of the Summer Session, 1900. 1019 College St. (217 Liberal Arts)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.
Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890.
529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.
Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.
Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.
Professor of European History, 1900.
232 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.
Professor in Education, and Inspector of High Schools, 1901.
221 Fairchild St. (216 Liberal Arts)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.
Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894. 911 Iowa Ave. (308 Science Hall)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.
Professor of Petrology, Economic Geology and Mining, 1903.
634 Summit St. (105 Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.
Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR G. SMITH, B. PH., 1891; M. A., 1895, Iowa.
Professor of Mechanics in the Department of Mathematics, 1898.
West Side. (12 Liberal Arts)

JOHN THOMAS MCCLINTOCK, A. B., 1894, Parsons; M. D., 1898, Iowa.
Professor of Physiology in the Colleges of Medicine, 1897.
425 Iowa Ave. (Physiological Laboratory)

GEORGE T. FLOM, B. L., 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.
Acting Professor in Charge of Scandinavian Languages and Literatures, 1900.
609 Summit St. (10 Liberal Arts)

HENRY ALBERT, B. S., 1900; M. D., 1902; M. S. 1902, Iowa.
Acting Professor in Charge of Pathology and Bacteriology, 1901.
120 E. Market St. (Laboratory Hall)

WILLIAM EDWARD BARLOW, B. A., 1895; M. A., 1899, Cambridge, Eng.; Ph. D., 1903, Goettingen.
Assistant Professor of Chemistry, College of Medicine, 1891.
925 Iowa Ave. (Chemical Laboratory)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.
Assistant Professor of German, 1892.
402 Church St. (102 Liberal Arts)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.
Assistant Professor of Statistics and Economics, 1898.
505 Washington St. (209 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.
Assistant Professor of German, 1898.
225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.
Assistant Professor in French, 1901.
127½ S. Dubuque St. (120 Liberal Arts)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tuft's College; Ph. D., 1903, Clark University.
Assistant Professor in Charge of Electrical and Mechanical Engineering 1903.
330 N. Linn St. (Armory)

FREDERICK BONNET, JR., B. S., 1899, Washington; M. S., 1902; Ph. D., 1903, Harvard.
Assistant Professor of Chemistry, College of Medicine, 1903.
19 E. Market St. (Chemical Laboratory)

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A., 1880, Iowa.
Lecturer on Education, 1891. Cedar Rapids, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.
Lecturer on Journalism, University Publisher, 1900.
Cedar Rapids, Iowa.

THE REV. GEORGE LUTHER CADY, B. A., 1890, Olivet College.
Lecturer on Sociology, 1900 725 N. Linn St.

GEORGE HAMPTON BREMNER, C. E., 1883, Iowa.
Lecturer in School of Applied Science, 1903. Chicago, Illinois

WALTER D. LOVELL, C. E., 1891, Iowa.
Lecturer in School of Applied Science, 1903. Des Moines, Iowa

ARTHUR JOHN COX, C. E., 1891; LL. B., 1895, Iowa.
Lecturer in School of Applied Science, 1903. 104 E. Market St.

FRANK R. RUTTER, B. A., 1894; PH. D., 1897, Johns Hopkins.
Lecturer in Commerce and Statistics, 1904. (309 Liberal Arts)

HERBERT CLIFFORD DORCAS, B. PH., 1895, Iowa; M. A., 1903, Columbia.
Instructor in Education, and University Examiner, 1895.
428 Ronalds St. (218 Liberal Arts)

LOUISE ELIZABETH HUGHES, B. PH., 1878; M. A., 1881; B. A. 1899, Iowa.
Instructor in Latin, 1896. 122 N. Capitol St. (112 Liberal Arts)

CARL LEOPOLD VON ENDE, B. S., 1893; M. S., 1894; Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. 715 N. Gilbert St. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; Ph. D., 1898, Leipzig.
Instructor in Mathematics, 1899. 928 N. Linn St.
(12 Liberal Arts)

SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900 Johns Hopkins.
Instructor in English, 1900. 209 Fairchild St. (207 Liberal Arts)

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. Ph., 1899; M. S., 1901, Iowa.
Instructor in Animal Morphology and Physiology, 1898.
120 E. Market St. (104 Science Hall)

SAM BERKLEY SLOAN, B. A., 1899, Nebraska.
Instructor in English, 1899. 508 N. Linn St. (118 Liberal Arts)

HENRY WALDGRAVE STUART, B. PH., 1895, California; PH. D., 1900, Chicago.
Instructor in Philosophy, 1901. 221 Fairchild St. (202 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902.
120 N. Dodge St. (317 Liberal Arts)

PAUL SKEELS PEIRCE, B. PH., 1897, Cornell; PH. D. 1900, Yale.
Instructor in History, 1902. 1011 Woodlawn (223 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902.
106 Fairchild St. (205 Liberal Arts)

ALDEN ROBBINS HOOVER, B. S., 1902, Iowa.
Instructor in Histology and Embryology, 1901.
213 E. Market St. (Laboratory Hall)

MABEL CLARE WILLIAMS, B. PH., 1899; PH. D., 1903, Iowa.
Instructor in Psychology, 1899.
18 E. Davenport St. (215 Liberal Arts)

CHARLES IRWIN LAMBERT, B. DI., 1896; M. DI., 1897, Iowa NORMAL SCHOOL; B. S., 1901; M. S., 1903; M. D., 1903, Iowa.
Instructor in Pathology and Bacteriology, 1900. 114 Market St

WILLIAM E. BECK, B. S., 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900.
518 South Clinton St. (115 Liberal Arts)

FREDERICK WILLIAM BAILEY, B. S., 1901, Iowa.
Assistant Instructor in Physiology, College of Medicine, 1901.
220 Davenport St. (Physiological Laboratory)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A. 1900, Iowa.
Assistant Instructor in English, 1900.
215 Ronalds St. (226 Liberal Arts)

JOHN GABBERT BOWMAN, B. A., 1899, Iowa.
Assistant Instructor in English, 1901
215 Ronalds St. (226 Liberal Arts)

HARRIETTE GRACE HOLT, B. PH., 1896, Iowa.
Assistant Instructor in French, 1902.
225 Iowa Ave. (6 Liberal Arts)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. Ph., 1900; B. S. in C. E., 1901, Iowa.
Assistant Instructor in Civil Engineering, 1902. 24 N. Clinton St. (Engineering Hall)

HELEN MAY EDDY, B. A., 1900; M. A., 1903, Iowa.
Teaching Fellow in Latin, 1901. 4 Jefferson St. (112 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896; M. A., 1902, Penn College,
Fellow in English, 1902. 4 Jefferson St. (226 Liberal Arts)

CHARLOTTE MARIE LORENZ, B. A., 1902, Iowa.
Fellow in German, 1902. West Side. (8 Liberal Arts)

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.
Fellow in Zoology, 1902. 318 N. Dubuque St. (305 Science Hall)

WALTER MARTINUS BOEHM, B. S., 1902, Iowa.
Fellow in Physics, 1900. 406 S. Clinton St. (Hall of Physics)

FRED J. SEAVER, B. S., 1902, Morningside College.
Fellow in Botany, 1902. 321 Church St. (206 Science Hall)

JOSEPH HARDING UNDERWOOD, B. A., 1902, Western College.
Fellow in Economics and Statistics, 1902. 120 Davenport St. (205 Liberal Arts)

CHARLES SCHUTZ KRAUSE, B. S., 1902, Iowa.
Fellow in Pathology and Bacteriology, 1901. 9½ S. Dubuque St. (1a Liberal Arts)

GUY GRIFFIN FRARY, B. S., 1902, Morningside College.
Fellow in Chemistry, 1903. 114 Fairchild St. (Chemical Laboratory)

JAMES GARDNER GOODWIN, B. S., 1899, Wesleyan University, Middleton, Conn.
Fellow in Chemistry, College of Medicine, 1903. 115 Fairchild St. (Chemical Laboratory)

HENRIETTA DOROTHY PLOCK, B. A., 1901, Iowa.
Fellow in German, 1903. 328 N. Dubuque St. (8 Liberal Arts)

ROBERT D. KREBS, B. A., 1903, Iowa.
Scholar in Greek, 1903. 128 Bloomington St.

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di., 1900, Iowa State Normal; B. PH., 1903, Iowa.
Scholar in Sociology, 1903. 220 N. Dubuque St. (204 Liberal Arts)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Scholar in Pathology, 1903. 9½ S. Dubuque St. (Laboratory Hall)

HARRY EUGENE ILSLEY, B. S., 1899, Coe College.
Scholar in Geology, 1908. 715 N. Gilbert St. (106 Science Hall)

CARL VOLNEY KENT, B. S., 1904.
Scholar in Physics, 1908. 290 Fairchild St. (Hall of Physics)

IDA THERESIA SPEIDEL, B. S., 1903, Iowa.
Scholar in Mathematics, 1908. 20 S. Linn St.

ALICE FLORENCE MCGEE, B. PH., 1901, Iowa.
Scholar in French, 1908. 122 Church St. (121 Liberal Arts)

GRACE HELEN KENT, B. A., 1902, Iowa.
Scholar in Philosophy, 1908. 129 S. Madison St.

ANNA JOHNSON, B. A., 1903, South Dakota.
Scholar in Mathematics, 1908. West Side. (113 Liberal Arts)

JESSE RESSER, B. PH., 1903, Iowa.
Scholar in Public Speaking, 1908. 113 Court St. (312 Liberal Arts)

DANIEL STARCH, B. A. 1903, Charles City College.
Scholar in Philosophy, 1908, 208 Fairchild St. (214 Liberal Arts)

ELIZABETH LEWIS SHERWOOD, B. A., 1891; M. A., 1903, Iowa.
Scholar in English, 1908. 124 Church St.

MAY SHUCK, B. PH., 1900, Iowa.
Scholar in English, 1908. West Side

HARVEY HAYES LOCHRIDGE, B. S., 1901, Beloit.
Assistant in Chemistry, 1901. 313 Ronalds St

MARY SLEIGHT EVERTS.
Assistant in Public Speaking, 1901. 714 N. Linn St

THE ADMINISTRATIVE COUNCIL OF THE GRADUATE COLLEGE

Dean WELD, Chairman; Professor FAIRBANKS, Secretary; Professors ANDREWS, ANSLEY, BIERRING, NUTTING, WILSON, WILCOX.

THE ADMINISTRATION OF THE GRADUATE COLLEGE

The excellent opportunities offered by the State University of Iowa for the pursuit of advanced studies in various branches of knowledge have from the first attracted considerable numbers of college graduates to the institution. As the opportunities for advanced study multiplied, the number of such students became larger and several of the departments found it expedient to offer courses specially designed for graduates.

The first noteworthy step toward the development of a graduate college was taken in 1888, when the practice of conferring the degree of Master of Arts upon all bachelors of three years standing who had been engaged in professional or literary work was definitely discontinued. In 1893 the graduate work of the university had become of such importance as to warrant the appointment of a standing committee for its supervision and for the definition of the terms upon which the degrees of Master of Arts and Master of Science might be conferred. The policy inaugurated by this committee differed but little from that in operation at the present time and its effect was immediate and salutary. The number of advanced courses open to graduates steadily increased and the facilities for successfully prosecuting special work were greatly improved.

In 1898 applications for admission to candidacy for the degree of Doctor of Philosophy were for the first time accepted, and then only from graduate students in residence at the university. The question of accepting non-resident candidates for the degrees of Master of Arts and Master of Science was disposed of in 1899 when, upon the recommendation of the standing committee on graduate students, it was voted by the faculty that no candidate *in absentia* would be accepted after Octo-

ber 1, 1900, and that all such existing candidacies should lapse in June, 1903.

The graduate college was instituted by action of the board of regents on June 7, 1900. Besides recognizing the college and appointing a dean, the board established certain fellowships and scholarships, the number of which has been increased from year to year. The first annual announcement was issued in August, 1900.

A council of seven members, appointed by the president of the university, co-operates with the dean in the administration of the college.

ADMISSION

Any person known to be a graduate in good standing of an accredited college of liberal arts may be admitted to the graduate college. Admission to specific courses of study to be taken in candidacy for an advanced degree, however, can only be granted upon the recommendation of the respective professors in charge of such courses.

There are no tuition fees in the graduate college. A diploma fee of $10 is charged for each advanced degree conferred.

FELLOWSHIPS AND SCHOLARSHIPS

For the coming academic year there will be available thirty-three or more fellowships and scholarships in the graduate college of the State University of Iowa.

Attention is called to the scholarships in Iowa colleges now offered for the first time. The regulation governing these scholarships are given below.

The value of a fellowship is $225 per year and that of a scholarship $125, with exemption from all university fees in each case. In general, a fellowship is granted only to graduate students of at least one year's standing, while a scholarship may be conferred upon graduation. Graduates of any accredited college of liberal arts are eligible.

FELLOWSHIPS AND SCHOLARSHIPS AT LARGE

Applications for graduate appointments must be made to the president of the university upon blanks prepared for the purpose and obtainable from any member of the faculty. All

applications, to be acted upon at the spring meeting of the board of regents, must be submitted before March 1st; those to be acted upon at the June meeting, before May 15th.

The following regulations are in force:

1. Each fellow or scholar will be required to pursue his studies under the direction of the professor in charge of his major or minor courses and to render to the university such services as may be required of him by the president in consultation with the professor in charge of his major course; it being understood that the maximum amount of service to be expected of a scholar shall be the *equivalent* of teaching three hours or of superintending laboratory work for six hours per week, while that required of a fellow may not exceed twice the above amount.

2. Each student holding a fellowship or a scholarship shall be in actual attendance throughout the academic year for which he is appointed, unless excused by the president and the head of his department.

3. The applicant for a fellowship or a scholarship will be expected to demonstrate his capacity for original research and must give evidence of marked attainments in one or more lines of study. Testimonials from responsible persons as to the general worthiness of the candidate must accompany the application, but no appointment to a fellowship may be made upon recommendations not supported by specimens of the applicant's original work.

4. Each application for a fellowship or scholarship shall, if approved by the head of the department in which the appointment is sought, be referred by him to the council of the graduate college. The council shall consider all applications thus approved and referred and submit a report to the graduate faculty recommending a list of appointments assigned to the several departments as equitably as may be, the relative qualifications of the several applicants having been accorded due weight. This report as amended by the faculty shall, upon the approval of the president, be transmitted to the board of regents or its executive committee for final action at the spring meeting.

A second assignment of fellowships and scholarships may be made in the same manner at the June meeting of the board.

5. All graduate appointments shall be for one year. Both fellows and scholars may be recommended for re-appointment at the discretion of the council, but for a second year only.

6. Any graduate appointment may be withdrawn at any time upon the concurrent recommendation of the president of the university and the head of the department in which the appointment is held.

SCHOLARSHIPS IN IOWA COLLEGES

At the meeting of the board of regents of January 7th and 8th, 1904, the following regulations with respect to scholarships in Iowa colleges were formally adopted:

1. Until further notice one scholarship in the graduate college of this university is hereby established in each of the "standard colleges" of Iowa. For the year 1904–5 those institutions officially recognized by the college section of the Iowa State Teachers' Association will be regarded as standard colleges.

2. Said scholarships shall entitle the student while holding the same to an annual stipend of one hundred and twenty-five dollars ($125.00) besides free tuition in the graduate college.

3. Said scholarships are to be awarded annually as follows: —The faculty of each college entitled to such scholarship shall be asked to certify, through its president, on or before April 1st of each year, to the president of this university, the name of two or more students who have received the baccalaureate degree from said college within two years prior to that date, or who will receive the said degree from that college at the close of that collegiate year, as being the persons whom they nominate as candidates for said scholarship in this university for the ensuing scholastic year. Of the candidates thus nominated it is contemplated that at least one shall desire to pursue, and shall have shown marked fitness for, graduate work under the faculty of science; and one, likewise, under the faculty of letters.

4. Upon receipt of such nominations this university shall award the scholarship for said college to one of the candidates thus recommended, to be held during the ensuing academic year, provided any one of the candidates meet all the conditions governing the appointment of scholars by this university (see above). The university reserves the right to provide against the undue overcrowding of any one department or group of de-

partments by such scholars. In case any college fail to nominate candidates who meet such requirements within the time above indicated or in case the appointment fail of acceptance, this university may consider application from other graduates of said college for the vacancy thus created or, at its discretion, withdraw the scholarship for that year.

5. Appointments to these scholarships are for one year and may be renewed for a second year only. The first award under these regulations shall be made for the academic year 1904–5.

6. The parties to whom these scholarships are awarded shall, while receiving the benefits therefrom, remain in residence in this university, shall perform such services in the libraries and laboratories and upon the instructional staff as may be assigned to them, and shall be subject to all other regulations governing fellows and scholars in the graduate college.

7. In case any student while holding such scholarship, fail to remain in residence and pursue his studies the whole of the scholastic year, then he shall receive only a proportional part of the stipend attached to such scholarship for said year.

ADVANCED DEGREES

The graduate college confers the following degrees: Master of Arts, Master of Science, Doctor of Philosophy, Civil Engineer, Electrical Engineer. The requirements for these degrees are fully explained below.

MASTER OF ARTS AND MASTER OF SCIENCE

The degree of Master of Arts, or of Master of Science, will be conferred upon resident graduates under the following conditions:

1. The candidate must be a graduate of this university, or of an accredited university or college.

2. He must have pursued, during one or more years, a course of graduate study at this university, covering one major and one minor subject; in a two year course, one major and two minors being allowed. His studies during this time are to by under the immediate supervision and control of the professors immediately concerned and to be subject to the approval of the faculty.

3. In all cases the minor or minors must be closely allied to the major subject; provided, however, that any candidate in

residence for two or more years may select a modern language as a second minor in his course.

4. The candidate must submit a thesis of at least 5,000 words, showing marked attainment in some branch of learning. The subject of this thesis must be announced to the faculty for approval not later than the second Friday of December, and the thesis itself must be presented to the examining committee at a date to be set by the professor in charge of the thesis work, but not later, in any case, than May of the year in which the degree is expected.

5. He must, at the close of his course, pass a satisfactory examination, both oral and written, conducted by a committee which shall consist of three professors, selected by the faculty for this purpose.

6. A graduate student in any professional college of the university, pursuing work in the graduate college, may become a candidate for an advanced degree: but two years of such candidacy shall be necessary to fulfill the requirement of one year imposed by rule 2 above, the time to be reckoned from the date of the application for the advanced degree.

7. The degree of Master of Arts will be granted only upon the completion of a course mainly literary in character; the degrees of Master of Science, after one mainly scientific.

DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy will be granted under the following conditions:

I. Prerequisites.

1. The candidate must have received the bachelor's degree either from this institution or from some other of equal rank.

2. He must present evidence of having completed a satisfactory amount of undergraduate work in the subjects proposed for investigation for this degree.

3. He must possess a knowledge of French and German at least sufficient for purposes of research.

II. Conditions of Candidacy.

1. At least three years of graduate study will ordinarily be required. Of these, two must be in residence and the last year drior to receiving this degree must be spent at this university.

2. In making formal application for this degree the candidate shall select one major study and one or two minors. The minor study or studies shall be closely allied to the major and shall be such as, with it, to constitute a single field of research.

3. The application of the candidate setting forth the line of research proposed, shall be approved and endorsed by the professor or professors under whose direction it is proposed to prosecute the work.

III. Dissertation.

1. On completion of his work the candidate shall submit to the faculty a formal dissertation which shall not only exhibit evidence of original research, but shall in itself be a contribution to the sum of human knowledge.

2. The dissertation must be in acceptable literary form; although its acceptance will depend chiefly upon the subject matter.

3. The subject of the proposed dissertation must be submitted to the faculty not later than the last Friday in September of the year preceding that in which the degree is expected; and a copy of the dissertation, printed or type-written, must be in the hands of the secretary of the faculty not later than the 20th day of May of the year in which the degree is expected. In case the dissertation offered is accepted by the faculty and the candidate passes satisfactorily the examination provided for in the next section following, he shall, prior to receiving his degree, deposit with the librarian of the university twenty-five printed copies of the dissertation so accepted.

IV. Examinations.

1. At such times as may be agreed upon by the candidate and the professors in charge of his work, he shall pass an examination, both oral and written; the examination to be conducted by the professors immediately concerned,—the written privately, the oral in the presence of the faculty. For purposes of this examination five members of the faculty of the graduate college shall constitute a quorum.

CIVIL ENGINEER AND ELECTRICAL ENGINEER

Graduates from the engineering courses receive the degree of Bachelor of Science in Civil or Electrical Engineering. The degree of Civil Engineer or Electrical Engineer will be conferred on graduates whe have practised their respective professions for at least three years, and who have submitted an approved thesis and passed a satisfactory examination.

COURSES OF STUDY FOR GRADUATES

It is the aim of the university to furnish facilities for advanced study commensurate with the demand. No set courses of study leading to any of the advanced degrees are provided; each candidate for one of these degrees pursuing an independent line of study, in which regular university courses are usually combined with special research work, original in character, laid out with the advice of the professors, and carried out under their direction.

The elastic nature of the elective system here in operation renders the more advanced courses in many branches as valuable to the graduate as to the advanced undergraduate. The seminaries, for example, hold out encouragement and opportunities for a great deal of original study and research, as do also a number of the advanced courses in the different departments. In the following pages will be found grouped together those courses which are of special interest to graduates. In every case courses intended primarily for graduates (C) are distinguished from those open also to undergraduates (B). To the former, undergraduates are admitted only under exceptional circumstances and subject to the discretion of the professor in charge of the work.

The courses intended only for undergraduates (A) are not here given, but may be found in the current announcement of the college of liberal arts. The numbers given to the several graduate courses are continuous with those designating the undergraduate courses.

Additional graduate courses will be arranged in connection with the summer session for the benefit of those unable to do work in residence during the regular academic year. Details as

to these courses are given in the current announcement of the summer session or may be obtained by correspondence with the professors concerned.

SANSKRIT

Professor Potter

The courses in Sanskrit are intended to afford a general introduction to Indo-European comparative grammar and to lay the foundation for future reading in the literature and philosophy of the ancient Hindus.

For additional courses in Indo-European grammar see Greek, course 35 (*36*); Latin, course 35; German, courses 11–16, 19; Scandinavian, courses 9 (*10*), 13 (*14*), 17 (*18*), 19 (*20*); English, courses 87 (*88*), 79 (*80*), 81, 82, 73.

*1. Sanskrit grammar and the reading of easy selections from the Nala. Lectures on Sanskrit phonology.

First semester; Tu., Th.

2. Introduction to the Veda. Lectures on Hindu history and literature.

Second semester; Tu., Th.

A supplementary reading course for the purpose of drill in vocabulary and grammatical forms is offered in the summer session.

GREEK LANGUAGE AND LITERATURE

Professor Fairbanks; Professor Call

Ordinarily candidates for advanced degrees are expected to have completed four years of work in Greek before undertaking the work of the graduate courses. The aim of these courses is to enlarge the student's view of the field in which he is working, to train him in correct methods of study and investigation, and to encourage him to pursue lines of original research. In connection with each course the student is urged to read Greek authors both widely and accurately. In the preparation of the thesis offered for an advanced degree he has the benefit of the constant direction and advice of his instructor.

*Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Where a course runs through the year it receives a double number, e. g. 1, (2); the whole course is designated in the calendar by the first number, but on the registrar's books each half of the course is designated by its own number. Courses not to be given in 1904-1905 are put in brackets.

In the new hall of liberal arts the departments of Greek and Latin have received ample accommodation. In addition to the regular recitation rooms, a well-lighted room is set apart as a working room for advanced students in the classics.

Not only the texts of classic authors, but also the more important annotated editions have been obtained, the sets of periodicals containing the results of philological and archeological investigations are being placed on the shelves, and in some lines of archeology the standard publications have already been secured. The university has also begun a collection of photographs and lantern slides which are used to illustrate the courses in archeology, and to some extent the courses in Greek literature. The collection owned by the university is supplemented by several hundred slides and many photographs belonging to the instructors in this department.

Graduates who offer Greek as their major are not required to take Latin as a minor, but they are strongly urged to do so. A working knowledge of Latin, as well as of French and German, is, of course, required of candidates for the doctor's degree.

The courses in Greek Language and Literature are described on pages 104-107.

CLASSICAL ARCHEOLOGY

ART; HISTORY; ANTIQUITIES

The courses in Classical Archeology are described on pages 107-109.

LATIN LANGUAGE AND LITERATURE

PROFESSOR CURRIER; PROFESSOR POTTER, MISS HUGHES, MISS EDDY

The minimum prerequisite for work leading to an advanced degree is the full preparatory work for the classical course and the undergraduate course 7–12 inclusive, or their equivalent.

The courses in Latin Language and Literature are described on pages 109-113.

FRENCH LANGUAGE AND LITERATURE

PROFESSOR VAN STEENDEREN; ASSISTANT PROFESSOR BUSH, MISS HOLT, (MISS HUTCHINSON), MISS MCGEE

Aside from the general requirements for admission to the graduate college, the candidate for an advanced degree, pursuing either his major or his minor course in this department, must have completed undergraduate courses 1 (*2*), or 3(*4*), and 5(*6*), or their equivalent; that is, he is expected to know the essentials of French grammar, to be able to read modern French prose, and to translate English into French with fair ability.

Besides the completion of courses offered below, the candidate must, if romance is chosen as a major study, follow a course of original study, the subject of which is chosen under the advice of the professor in charge, the results of which must be embodied in a thesis.

The courses in French Language and Litérature are described on pages 113-117.

SPANISH LANGUAGE

The courses in Spanish Language are described on page 117.

ITALIAN LANGUAGE

The courses in Italian Language are described on page 118.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR WILSON; ASSISTANT PROFESSORS STURM AND EASTMAN, DR. FLOM, MISS LORENZ, MISS PLOCK, AND MR. WIEHR

All courses in German are offered every year except as otherwise indicated. Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Students are invited to consult with the instructors in arranging their work. Graduate students of German will find it to their special advantage to combine with their work some of the courses offered in the department of Scandinavian languages and literatures.

The German library is particularly rich in the history of German literature, the history of the German language, Goethe literature, Middle High German, Old High German, and possesses complete bound sets of the most important philological periodicals. It is conveniently arranged in the German seminar room, No. 103, in the hall of liberal arts, adjoining the other rooms of the department.

The courses in German Language and Literature are described on pages 118-123.

SCANDINAVIAN PHILOLOGY

DR. FLOM

The graduate instruction offered in the department of Scandinavian languages, is intended in part to suit the needs of advanced students in other modern languages, especially German and English, and in part to give to those who would devote themselves more particularly to Scandivanian literature and linguistics a thorough knowledge of Scandinavian, both in the older and in the modern period. A knowledge of Old Norse is essential to a thorough understanding of the other Germanic languages and Germanic philology in general. Old Danish and Old Swedish, though inferior from the standpoint of literary interest, are of the greatest importance philologically. Two courses will be offered in Old Norse (and Old Icelandic): the one elementary and philological, the other advanced and more literary in character. In the former the interests of the student of German or English philology will be kept constantly in view. This course is also intended to lay a foundation for further study in Scandinavian philology. Courses are also offered in the history of the Scandinavian languages and in Scandinavian influence on English. The latter should be of special interest to students of English philology. It is the purpose of this course to go, rather in detail, into the linguistic relations of English and Scandinavian. After introductory lectures on English dialects, in which special attention will be paid to Northern English, certain works will be assigned for investigation. The form and distribution of words will be studied, and their dialectal provenience determined as nearly as may be.

The courses in Scandinavian Philology are described on pages 123-128.

ENGLISH

PROFESSOR ANSLEY; DR. HAGEN, MR. BREWER, MR. SLOAN, MR. HUNT, MR. BOWMAN, MISS CHAWNER

Undergraduates who intend to become candidates for advanced degrees in English, should emphasize this, and related subjects in the work of the junior and senior years. Those who do not make the special preparation recommended, find that more than the usual time must be given to the graduate course.

The requirements for a major in either English literature or English language may be learned by application to the head of the department. The preparation and the aims of the student are considered. For a minor in English, courses should be chosen after conference with the head of the department, and the professor in charge of the major. With the consent of the instructor, any course in the department is open to a graduate student; but only approved combinations of courses lead to advanced degrees.

Work not provided for in the courses announced, is outlined and directed by instructors as needed.

The courses in English are described on pages 128-132.

PUBLIC SPEAKING

PROFESSOR GORDON; MISS EVERTS

The subject of public speaking deserves careful attention at the hands of graduate students. The relation between the history of a nation and the development of public speaking, the history of public speaking in a republic, and the influence of vocal expression upon a nation's literature are some of the subjects that need elucidation at the hands of cultured students.

The courses in Public Speaking are described on pages 132-134.

THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE

The departments of history, sociology, political economy, and political science are formally associated as the School of Political and Social Science. For detailed information as to the correlation of courses of study in these departments the student should consult the special announcement issued by the school.

HISTORY

PROFESSOR WILCOX; PROFESSOR PLUM, AND DR. PEIRCE.

Students who wish to do graduate work in history will be expected to have done more than the average amount of undergraduate work in the subject. Graduate work is not intended to fill up gaps left in the student's undergraduate course. All who intend to specialize in history should emphasize this subject before taking the bachelor's degree. Before any one can be enrolled as a graduate student in this department the requisite amount of preliminary work must be completed, either before or after receiving the first degree. Those contemplating graduate work in history are urged to elect also courses in sociology, economics, and politics.

The courses in History are described on pages 135-138.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH; DR. HORACK

Candidates for the degree of Master of Arts or Doctor of Philosophy in any of the lines of study comprehended by the department of political science are offered the following regular courses of instruction. Additional courses in the general field of politics will be outlined by the head of the department to meet the special demand of individual candidates.

The courses in Political Science are described on pages 138-141.

POLITICAL ECONOMY AND SOCIOLOGY

PROFESSOR LOOS; PROFESSOR PATTERSON, DR. CADY, DR. SCHAFFNER, DR. RUTTER.

Candidates for advanced degrees who elect political economy, sociology or commerce as major or minor are requested to confer with the head of the department with reference to the suitable grouping of the courses here offered.

The courses in Political Economy and Sociology are described on pages 141-147.

PHILOSOPHY

PROFESSOR PATRICK; PROFESSOR SEASHORE, DR. STUART, DR. WILLIAMS

This department offers opportunity for advanced study in the following subjects: psychology, history of philosophy, logic and metaphysics, ethics, aesthetics, and the history and philosophy of religion. Candidates for the degree of Master of Arts or Master of Science having the required preparation for advanced work may elect any one of these subjects for either a major or a minor course, subject to the rules for graduate students. Candidates for the degree of Doctor of Philosophy, while selecting one subject for special research will be expected to gain a comprehensive knowledge of all the subjects in this group. As examples of subjects for special research, or for theses, may be mentioned: problems in experimental or physiological psychology, the methods and results of child study, epistemology, special periods and subjects in the history of philosophy, etc.

Candidates for advanced degrees in this department should have taken as undergraduate work in this institution, or in another of like rank, a general elementary course in psychology, a course in logic and a course in ethics. An introductory course in the history of philosophy is also very desirable for preparation. Graduate students not candidates for a degree may take any course for which they are prepared, upon the approval of the instructor.

The new rooms for the psychological laboratory and the department of Philosophy on the second floor of the hall of liberal arts are now occupied. They include two lecture rooms, a large library and seminar room, five commodious laboratory rooms, a work shop, a dark room, and two private offices for instructors. A description of the laboratory and apparatus may be found in this announcement under the head of material equipment.

The State University of Iowa Studies in Psychology is a biennial bulletin published by the university and devoted to original contributions to psychological science. The articles are contributed by the graduate students and instructors of the department.

The philosophical library is supplied with all the standard works in philosophy, psychology, ethics and logic, and with the bound volumes and current numbers of the leading philosophical and psychological journals of America, England, Germany, and France.

The courses in Philosophy are described on pages 147-151.

EDUCATION

PROFESSOR BOLTON; PROFESSOR BROWN, MR. DORCAS, SUPT. MCCONNELL.

The department of education at present includes the following branches of university work:

1. Regular courses of instruction in the science and art of education.
2. The inspection of affiliated high schools.
3. The work of the university examiner.
4. A bureau of information concerning teachers' positions.

Course 1 (*2*) is the most desirable as a first course in education. Certain other courses may well be taken at the same time. After course 1 (*2*) the order is not important. Courses 1 (*2*) and 5 (*6*), or 1 (*2*) and 7 (*8*) make a good five hour combination. Courses 1 (*2*), 9 (*10*), 12, and 13 (*14*) are especially desirable for normal school graduates and are in no sense a duplication of work done in the normal schools. Advanced courses are also open to those qualified. Some seminary work is especially valuable for such students.

Some work in psychology is a very desirable preparation for the courses in education. Students expecting to do considerable work in education can profitably take psychology in the sophomore year, and then distribute the work in education through the junior and senior years.

Attention is called to the courses especially adapted for teachers, offered by other departments. These courses are of two kinds, (*a*) those dealing in a specific way with the methodology and technique of high school intsruction in those subjects, and (*b*) those in which the subject matter of instruction is of fundamental importance (and to a certain extent adaptable) in teaching those subjects in a modern manner in the high school. As much high school instruction needs vitalizing by being made more adaptable to the demands of the present, the value of such courses becomes apparent.

Teachers' courses of one kind or the other are offered by the departments of botany, English, German, Greek, history, Latin, morphology, political science, zoology. See the announcements for those departments and also consult the professors concerned.

The courses in Education are described on pages 151-156.

ANIMAL MORPHOLOGY AND PHYSIOLOGY.

PROFESSOR HOUSER; MR. LAMBERT, MR. ————.

The graduate courses offered by this department presuppose familiarity with both the general methods and the fundamental principles of animal biology. As a rule, the requisite preparation will involve one year of laboratory work at least equivalent to that offorded by course 1 (*2*) supplemented by course 8 (*4*); see the announcement of the college of liberal arts. A knowledge of elementary chemistry, and the ability to read German and French are also prerequisites.

Applicants for a minor course who satisfy these requirements will be admitted at once to any graduate work for which they are prepared.

Those electing animal morphology as the major subject will be expected to meet the conditions named above, and, in addition, to present evidence of having completed work equivalent to that of courses 7 and 8 outlined below. As a foundation for research, such preparation is considered essential in every instance. Original work of a microscopical character should also be preceded by courses 9 and 10; while advanced study involving anatomical methods should utilize course 11 (*12*) as a basis.

The courses in Animal Morphology and Physiology are described on pages 157-160.

HUMAN PHYSIOLOGY

DR. MCCLINTOCK; MR. BAILEY

Those wishing to take physiology either as a major or minor in a course leading to an advanced degree, should have, as preliminary, at least one year's work each in physics, chemistry, and morphology, and should have completed undergraduate courses in physiology. Suitable courses will be outlined to meet the requirements of each student and special arrange-

ments will be made in the physiological laboratory of the college of medicine which will enable the students to carry on original research work.

Throughout the year; hours to be arranged.

HISTOLOGY AND EMBRYOLOGY

DR. WHITEIS

As a prerequisite to advanced work in this department the student will be required to possess a good working knowledge of both the methods and the subject matter of general histology and embryology. Two courses are offered as follows:

1. THE EYE—The histology of its tissues, considered in relation to both their phylogenetic and their ontogenetic development. The structure and development of the retina will be specially studied. Time to be arranged.

2. THE EAR—The investigation will proceed along the same lines as in the preceding course. Time to be arranged.

In either course the student will be assigned a private laboratory and offered such opportunities as the general laboratory and library afford. The department will supply the necessary tissues and reagents.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM

Two years' work in natural science, one of which shall have been in zoology or animal morphology, will be required as a preliminary to admission to graduate courses with zoology as a major.

One year's work in zoology, animal morphology, or botany will be required for admission to graduate courses with zoology as a minor.

The courses in Zoology are described on pages 161-164.

BOTANY

PROFESSOR MACBRIDE; PROFESSOR SHIMEK

General courses in elementary botany, including the courses in plant histology and physiology are required as preliminary to graduate work in this department.

The courses in Botany are described on pages 164-166.

PATHOLOGY AND BACTERIOLOGY

Acting Professor Albert

Candidates for higher degrees may pursue advanced work or carry on original investigations in pathology or bacteriology. As a prerequisite to such work, the student will be required to have had at least one year's work in pathology or bacteriology.

Each student will be assigned a private laboratory and given the use of a good microscope, and furnished the tissues and reagents necessary for the work of the course.

The following regulations with respect to major and minor subjects are to be observed. When the major subject chosen is bacteriology, the minor subject should include either chemistry, or botany, or both; while, if the major be experimental or comparative pathology, the minor should comprise such subjects as morphology, physiology, botany or psychology. Work in this department may also be elected as a minor.

Special courses may be arranged to suit the requirements of individual students.

Throughout the year; hours to be arranged.

The following courses, which are given as a part of the regular work of the department, are also open to students in the graduate college.

2. Pathological Technique—A laboratory course designed for those who desire to specialize in pathology. The work will include the principles and general methods employed in the investigation of such material as usually comes to the pathologist for diagnosis. Methods of conducting original research will also be carefully considered. The abundance of material in the laboratory especially adapted for pathological histology together with the fresh material constantly coming from the university hospitals, affords opportunity for the investigation of practically every variety of pathological tissue.

Hours to be arranged.

9. Bacteriological Technique—A laboratory course designed for advanced students and physicians who desire to specialize in bacteriology. The course is intended principally to prepare students for the duties of health officials. The work will include the technique necessary for every form of bacteriological analysis. The drill in practical work will be thorough and complete, to the end that graduates of the course may be

competent and reliable bacteriologists. The number that may be enrolled is limited to six.

Twelve hours each week during the first semester, or twenty-four hours each week during the second quarter of the first semester. The course may be finished in less time if the student devote himself exclusively to the work.

GEOLOGY AND MINING

PROFESSOR CALVIN; PROFESSOR WILDER, MR. ILSLEY

The geological field within reach of Iowa City and the geological collections and reference library belonging to the university afford ample opportunities for research work in geology. Courses can be arranged to meet the wishes of individual students. The following are outlines of some of the courses which may be chosen from the possible range of subjects available for graduate work.

The courses in Geology and Mining are described on pages 167-171.

CHEMISTRY

PROFESSOR ANDREWS; DR. VON ENDE, MR. LOCHRIDGE, MR. FRARY.

Graduates of accepted colleges who have done the amount of work in chemistry ordinarily covered in three semesters, comprising general elementary chemistry with laboratory work, introductory qualitative analysis, and introductory quantitive analysis, may become candidates for the degree of master of science.

The requirements for admission to the courses leading to the doctor's degree demand three years' preparatory work in chemistry and comprise a good knowledge of the following branches: general chemistry, qualitative analysis, quantitative analysis, organic chemistry (including some experience in organic combustion and organic preparations) and outlines of chemical technology. A thorough course in physics is very desirable as a preparation for either of the advanced courses; and if, in any case, deficiencies exist in this respect they must be made up after entering, and a corresponding increase in the duration of course is to be expected.

The courses in Chemistry are described on pages 171-173.

PHYSIOLOGICAL CHEMISTRY

PROFESSOR ROCKWOOD; DR. BARLOW

Suitable courses in physiological chemistry will be outlined to meet the requirements of graduate students desiring to pursue some phase of this subject, either as a major or as a minor in a course leading to an advanced degree. The applicant for such a course must satisfy the head of the department as to his knowledge of general chemistry, and as to his fitness for undertaking original investigations. The resources of the chemical laboratory of the college of medicine will be made available to the student, and the work will be under the direct supervision of the professor in charge.

Time to be arranged.

THEORY OF MEDICINE

DR. BIERRING

INTERNAL MEDICINE—Candidates for advanced academic degrees may pursue research work in internal medicine in the laboratories of the college of medicine. When this subject is chosen as a major, it is suggested that the minor include either physiology, pathology, or bacteriology.

Throughout the year; hours to be arranged.

PHYSICS

PROFESSOR VEBLEN; MR. LORENZ, MR. BOEHM, MR. KENT

Those wishing to take physics as a minor should previously have pursued a course equivalent to the undergraduate course in general physics covering one year, and should also have a good working knowledge of algebra, geometry, trigonometry, and, if possible, of plane analytical geometry. For those taking physics as a major, a knowledge of differential and integral calculus is necessary, and, in some cases, differential equations will be needed.

A description of the physical laboratory and workshop will be found under the head of *Material Equipment.*

The courses in Physics are described on pages 174-175.

MATHEMATICS

PROFESSOR WELD; PROFESSOR SMITH, DR. WESTFALL
MR. BECK, MISS JOHNSON, MISS SPEIDEL.

The candidate for an advanced degree in mathematics must have completed one of the following groups of undergraduate course, a detailed statement of which will be found in the announcement of the college of liberal arts:

	GROUP (A)	GROUP (B)
First Year		
1st quar.	Trig., 7a	Alg. I., 3a
2nd "	Alg. II., 5b	Alg. II., 5b or Trig., 7b
3rd "	Anal. Geom. I., 10a	Trig., 8a or Alg. II., 6a
4th "	Anal. Geom. II., 12b	Anal. Geom. I., 10b
Second Year		
1st quar.	Diff. Cal., 13a	Anal. Geom. II., 11a
2nd "	Int. Cal., 15b	Diff. Cal., 13b
3rd "	Curves, etc., 18a	Int. Cal., 16a
4th "	Diff. Eqs., 20b	Diff. Eqs., 20b

	GROUP (C)	GROUP (D)
First Year		
1st quar.	Solid Geom., 1a	.....
2nd "	Alg. I., 3b	.....
3rd "	Alg. II., 6a or Trig., 8a	Alg. I., 4a
4th "	Trig., 8b or Alg. II., 6b	Alg. II., 6b
Second Year		
1st quar.	Anal. Geom. I., 9a	Trig., 7a
2nd "	Diff. Cal., 13b	Anal. Geom. I., 9b
3rd "	Int. Cal., 16a	Diff. Cal., 14a
4th "	Diff. Eqs., 20b or Curves etc., 18b	Int. Cal., 16b

Graduates electing mathematics as a minor may, upon the recommendation of the professor in charge of the major subject, elect the second year's work in any one of the first three of the above groups.

The courses outlined below may, many of them, be taken by undergraduates specializing in mathematics.

All graduate students in mathematics are expected to take an active part in the mathematical seminary; and every candidate for an advanced degree will be required to submit a thesis, prepared under the direction of his instructors, representing original investigation in either pure or applied mathematics.

The courses in Mathematics are described on pages 176-182.

ELECTRICAL AND MECHANICAL ENGINEERING

DR. WELLS

As preliminary to the following graduate courees a good knowledge of general physics, including the principles of electricity, is required; and also, in general, a working knowledge of differential and integral calculus.

The courses in Electrical and Mechanical Engineering are described on pages 190-193.

SCHOOL OF POLITICAL AND
SOCIAL SCIENCE

FACULTY OF INSTRUCTION

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams, B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895; Williams.

President, 1899.* 603 College St. (108 Old Capitol)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor and Head of the Department of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.

22 E. Bloomington St. (205 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Head of the Department of History, and Professor of American History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895.

219 N. Clinton St. (202 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900.

222 Fairchild St. (315 Liberal Arts)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Assistant Professor of Statistics and Economics, 1898.

505 Washington St. (209 Liberal Arts)

THE REV. GEORGE LUTHER CADY, B. A., 1890, Olivet College, D. D., 1903, Iowa College.

Lecturer on Sociology, 1900 725 N. Linn St.

FRANK R. RUTTER, B. A., 1894; PH. D., 1897, Johns Hopkins.

Special lecturer in Commerce and Statistics, Second Semester, 1904. (209 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.

Instructor in Political Science, 1902.

120 N. Dodge St. (220 Liberal Arts)

PAUL SKEELS PEIRCE, B. PH., 1897, Cornell; PH. D. 1900 Yale.

Instructor in History, 1902. 1011 Woodlawn (223 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.

Instructor in Sociology and Economics, 1902.

106 Fairchild St. (205 Liberal Arts)

JOSEPH HARDING UNDERWOOD, B. A., 1902, Western College.

Fellow in Economics, 1902.

120 Davenport St. (205 Liberal Arts)

CLARENCE W. WASSAM, B. Ph., 1903.

Scholar in Sociology, 1903. 220 N. Dubuque St. (205 Liberal Arts)

SCOPE AND PURPOSES OF THE SCHOOL

The school of political and social science, established by the board of regents in June, 1900, embraces the following departments of instruction: history, political economy and sociology, including commerce; and political science. It provides courses in ancient and modern history, in the several branches of economics including commerce, finance and statistics; in theoretical and practical sociology; and in political science including public law and jurisprudence.

The aim of the school is to give a complete general view of all the political and social sciences and to foster the further development of all the branches thereof. Its more immediate and practical object is to prepare the students of the university for the intelligent exercise of the rights and duties of citizenship in a free commonwealth, and to fit them for the various branches of the public service and for the wider avenues of business. It aims furthermore to supplement, by courses in public law and comparative jurisprudence, the instruction in private municipal law given by the faculty of law, and to give to those who intend to make journalism their profession adequate training in historical, economic, and legal subjects. Finally it aims to educate teachers of the several branches of political and social science.

ADMISSION TO UNDERGRADUATE STUDY

Undergraduate study in the school of political and social science is conditioned on admission to the college of liberal arts and subject to the regulations defining the courses of study leading to the bachelor's degree under the operation of the elective system, defined below.

THE BACHELOR'S DEGREE

The requirements for the respective baccalaureate degrees are stated below under the elective system for undergraduates, and the requirements for B. A. and B. Ph. are specifically indicated in the statement of the general course in political

and social science on page 246. No student will be allowed, without permission, to change an elected course, nor to pursue more than sixteen nor less than fifteen hours at a time.

THE ELECTIVE SYSTEM FOR UNDERGRADUATES

The scope of elective and required studies will be indicated by a brief statement of the requirements of the several undergraduate courses of study which lead to a baccalaureate degree.

See "Courses of Study" on pages 89 to 91.

The student, therefore, who desires to do special work in the political and social sciences, will naturally elect a course, leading to the degree of B. A. or B. Ph., but a student who is pursuing a special course in commerce or industry may desire to specialize so far in applied science as to make it desirable for him to elect a course leading to the degree of B. S. If he wishes to specialize in the school of political and social science, he should in each semester of his sophomore year select at least two of the courses open to him in history, politics, and economics.

The courses specifically recommended for this purpose are, political science 1 and 2, and political economy 1 and 2, or 5 and 6. He may thereafter pursue his chosen subjects throughout two years; these years he may, if he choose, devote entirely to his specialty.

GENERAL UNDERGRADUATE COURSE IN POLITICAL AND SOCIAL SCIENCE; AND SPECIAL COURSES, ADVANCED UNDERGRADUATE AND GRADUATE.

To guide students who propose to elect all or a considerable portion of their undergraduate work in the school of political and social science a general course in political and social science is announced below. The specific requirements for the degree of B. A. and the degree of B. Ph. are respectively indicated; other parts of the course are in the nature of advice and suggestion. Following this general course of study, a series of special courses are announced in commerce, administration, statistics, modern history, and practical philanthropy, which are designated for undergraduates in their junior and senior years, and for professional and graduate students.

These courses of study, both the general and special, will be found below. The special courses are applications of the

group principle of election. Students desiring to group their electives more immediately with special reference to some definite line of inquiry or in preparation for some definite pursuit are urged to consult freely with the director of the school and heads of the departments.

GENERAL UNDERGRADUATE COURSE IN POLITICAL AND SOCIAL SCIENCE

FRESHMAN YEAR—If candidate for B. A.: Greek, 5 hours; Latin, 4; mathematics, 4; English, 2. Or, if candidate for B. Ph.: English, 2; and 12 to 14 hours selected from the following: Greek, Latin, German, French (4 to 9 hours, not exceeding 5 in any one); history, 4; and [mathematics or physics] 4.

SOPHOMORE YEAR—English, 3; elective: eight hours in economics, politics, and history; and Greek, 5 (if candidate for B. A.) or [public speaking, 2, and free elective, 3], 5, or free elective, 5 (if candidate for B. Ph.)—psychology or other science, or additional language recommended.

JUNIOR YEAR—English history, 3; principles of American government and comparative state legislation, 3; currency and banking, and public finance, 3; municipal government and Iowa history and politics, 2; introduction to sociology and social amelioration, 3; public speaking, debate, or free elective, 2.

SENIOR YEAR—American history, 3; comparative jurisprudence and constitutional law, 3; international law and the history of political philosophy, 2; free elective, 8.

SPECIAL UNDERGRADUATE AND GRADUATE COURSES

The freshman and sophomore years in preparation for the special courses outlined below, and open to juniors and seniors, should be practically the same for all the special courses as the work above indicated for freshmen and sophomores in the general course in political and social science, except that in preparation for certain special courses a different grouping of sophomore electives may be preferred. For preparation for the course in commerce, for example, it may be desirable that economics and commercial geography followed by transportation (economics 11 and 12) be elected in addition to economics 1 and 2 or 5 and 6 in the sophomore year. And if the prospective student of the course in commerce desires to do special

work in applied science he should elect early in his course of study one or more general courses in science. The special attention of those contemplating preparation for certain lines of trade or for certain forms of the public service, for example, the consular service, is called to the importance of an adequate knowledge of modern languages. The university at present offers: German, French, Spanish, Italian, Dutch, and Scandinavian. In preparation for statistics the election of one or more courses in mathematics in the freshman and sophomore years should not be omitted. As preparation for modern history the freshman option in history and additional history, in the sophomore year may be taken. And in preparation for the course in practical philanthropy, psychology may be taken as an elective during the sophomore year.

As the special courses here outlined are based on the group principle of election, modifications may be readily made in order to bring them more specifically within the scope of the aims and purpose of the individual student. Extreme specialization is, however, not recommended and for his guidance the special student should always consult the general course of study given above. The special courses which follow are primarily designed for juniors and seniors who may wish to specialize in the several lines indicated, but they are also recommended to graduate and professional students.

COURSE IN COMMERCE

JUNIOR YEAR

First Semester	HOURS	*Second Semester*	HOURS
Money and Banking	3	Public Finance	3
Econ. and Comm. Geog.	3	Transportation	3
Materials of Commerce	4	Materials of Commerce	4
Elective	5 or 6	Elective	5 or 6

SENIOR YEAR

First Semester		*Second Semester*	
Commercial Policies	5	Corporation Finance and Accounting	5
International Law	1	Commerce and the Consular Service	2
Commercial Law	3 to 5	Commercial Law	3 to 5
Elective	3 to 5	Elective	3 to 5

COURSE IN ADMINISTRATION

JUNIOR YEAR

First Semester	HOURS	*Second Semester*	HOURS
Principles of American Government	3	Contemporary State Legislation	3
Municipal Government	2	Colonial Government	2
Money and Banking	3	Public Finance	3
Statistics	2	Statistics	2
Modern History	2 or 3	Modern History	2 or 3
Elective	3 or 2	Elective	3 or 2

SENIOR YEAR

Elementary Law	3	Constitutional Law	3
Administrative Law	2	Administrative Law	2
Introduction to Sociology	3	Social Amelioration	3
International Law and Diplomacy	2	Political Phllosophy	2
Elective	5	Elective	5

COURSES IN STATISTICS

JUNIOR YEAR

First Semester	HOURS	*Second Semester*	HOURS
Economic and Comm. Geography	3	Transportation	3
Money and Banking	3	Public Finance	3
Statistics	2	Statistics	2
Analytics and Calculus	2	Analytics and Calculus	2
Elective	4 or 5	Elective	4 or 5

SENIOR YEAR

Advanced Statistics, Seminary work	3	Advanced Statistics, Seminary work	3
The Theory of Probabilities	2	The Theory of Probabilities	2
Administrative Law	2	Administrative Law	2
American History	3	American History	3
Elective	5	Elective	5

COURSE IN MODERN HISTORY

JUNIOR YEAR

First Semester	HOURS	*Second Semester*	HOURS
English History	3	English History	3
History of France	2	History of Germany	2
Principles of American Government	3	Comparative State Legislation	3
Money and Banking	3	Public Finance	3
Elective	5	Elective	5

SECOND YEAR

American History	3	American History	3
Europe in the XIX Century	2	England under the House of Hanover	2
Introduction to Sociology	3	Social Amelioration	3
Local Government	2	Colonial Government	2
Elective	5	Elective	5

COURSE IN PRACTICAL PHILANTHROPY

FIRST YEAR

First Semester	HOURS	*Second Semester*	HOURS
General Sociology	3	General Sociology	3
Psychology	3	Psychology	3
Modern History	3 or 2	Modern History	3 or 2
Education	3 or 2	Ethics	2
Elective	4 or 5	Elective	5

SECOND YEAR

Applied Sociology	4	Applied Sociology	4
Distribution of Wealth	3	Social Legislation	3
Statistics	2	Statistics	2
Abnormal Psychology	2	Administrative Law	2
Elective	4 or 5	Elective	4 or 5

PUBLICATIONS

The faculty of political and social science are the editors of a series of studies in sociology, economics, politics, and history, of which the following have so far appeared: Vol. 1, Studies in the Politics of Aristotle, and the Republic of Plato, by ISAAC ALTHAUS LOOS. The University Press, 1899, pp. 296. Vol. 2, No. 1, The Early History of Banking in Iowa, by FRED D. MERRITT, M. A., Ph. D. The University Press, 1900, pp. 150. Vol. 2, No. 2, The Development of Political Thought in Japan, by KIYOSHI KAWAKAMI, 1903. Vol. 3, No. 1, The Freedman's Bureau, by PAUL SKEELS PEIRCE, 1904.

THE POLITICAL SCIENCE CLUB

The Political Science Club is devoted to the cultivation and advancement of the political and social sciences. The club has held regular meetings since October, 1896. A formal organization was effected in January, 1897. The club now holds fortnightly sessions from October to May each year. At these sessions papers are read by members or by invited guests, presenting the results of original investigation in some subject in any one of the following group of sciences: history, economics, sociology, politics, law, education, and ethics. The membership of the club is limited to the faculties of instruction in the several departments interested.

SCHOOL OF APPLIED SCIENCE

THE SCHOOL OF APPLIED SCIENCE

*FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams, B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895; Williams.

President, 1899.† 608 College St. (108 Old Capitol)

SAMUEL CALVIN, M. A., 1874, Cornell College; F. G. S. A., PH. D., 1888, Lenox.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

LAUNCELOT WINCHESTER ANDREWS, B. PH., 1875, Yale; M. A., PH. D., 1882; Goettingen.

Professor and Head of the Department of Chemistry, 1885
251 S. Johnson St. (Chemical Laboratory)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor and Head of the Department of Physics, and Secretary of the Faculty of the College of Liberal Arts, 1893.
707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, and Director of the School of Applied Science, 1896.

612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1896.
922 E. Washington St. (304 Science Hall)

*The faculty of the University numbers over one hundred and eighty professors, instructors and assistants. This list contains the names of those in the departments of the College of Liberal Arts and the Graduate College offering courses in applied science.

†Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

*ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A., 1901, Amherst; M. D., 1895, Iowa.

Professor of Chemistry and Toxicology, and Secretary of the Faculty of the College of Medicine, 1888.
1011 Woodlawn. (Chemical Laboratory)

ALFRED VARLEY SIMS, C. E., 1888, Pennsylvania.

Professor and Head of the Department of Civil Engineering, 1895.
Bloom Terrace. (Engineering Hall)

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Morphology and Physiology, 1892. 422 Iowa Ave. (101 Science Hall)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S. School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901. 510 College St. (Armory)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890.
529 Brown St. (201 Science Hall)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894. 911 Iowa Ave. (308 Science Hall)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903.
694 Summit St. (106 Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.

Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR G. SMITH, B. PH., 1891; M. A., 1895, Iowa.

Professor of Mechanics in the Department of Mathematics, 1898.
West Side. (12 Liberal Arts)

JOHN THOMAS MCCLINTOCK, B. A., 1894, Parsons; M. D., 1898, Iowa.

Professor of Physiology in the Colleges of Medicine, 1897.
425 Iowa Ave. (Physiological Laboratory)

HENRY ALBERT, B. S., 1900; M. D., 1902; M. S. 1902, Iowa.

Acting Professor in Charge of Pathology and Bacteriology, 1901.
120 E. Market St. (Laboratory Hall)

WILLIAM EDWARD BARLOW, B. A., 1895; M. A., 1899, Cambridge, Eng.; Ph. D., 1903, Goettingen.

Assistant Professor of Chemistry, College of Medicine, 1891.
925 Iowa Ave. (Chemical Laboratory)

*Absent on leave, 1903-1904

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.
Assistant Professor in charge of Electrical and Mechanical Engineering, 1903. 330 N. Linn St. (Armory)

FREDERIC BONNET, JR., B. S., 1899, Washington; M. S., 1902; Ph. D., 1903, Harvard.
Assistant Professor of Chemistry, College of Medicine, 1903.
19 E. Market St. (Chemical Laboratory)

GEORGE HAMPTON BREMNER, C. E., 1883, Iowa.
Lecturer in School of Applied Science, 1903. Chicago, Illinois.

WALTER D. LOVELL, C. E., 1891, Iowa.
Lecturer in School of Applied Science, 1903. Des Moines, Iowa

ARTHUR JOHN COX, C. E., 1891; LL. B., 1895, Iowa.
Lecturer in School of Applied Science, 1903. 104 E. Market St.

CARL LEOPOLD VON ENDE, B. S., 1893; M. S., 1894, Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. 715 N. Gilbert St. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899. 328 N. Linn St.
(12 Liberal Arts

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Morphology and Physiology, 1898.
120 E. Market St. (104 Science Hall)

WILLIAM E. BECK, B. S. 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900.
518 South Clinton St. (115 Liberal Arts)

FREDERICK WILLIAM BAILEY, B. S., 1901, Iowa.
Assistant Instructor in Physiology, College of Medicine, 1901.
220 Davenport St. (Physiological Laboratory)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E. 1901, Iowa.
Assistant Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

WALTER MARTINUS BOEHM, B. S., 1902, Iowa.
Fellow in Physics, 1900. 406 S. Clinton St. (Hall of Physics)

WILLIAM BONNER BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.
Fellow in Zoology, 1902. 318 N. Dubuque St. (305 Science Hall)

CHARLES SCHUTZ KRAUSE, B. S., 1902, Iowa.
Fellow in Pathology and Bacteriology, 1901.
9½ S. Dubuque St. (1a Liberal Arts)

FRED J. SEAVER, B. S., 1902, Morningside College.
Fellow in Botany, 1902. 321 Church St. (206 Science Hall)

JAMES GARDNER GOODWIN, B. S., 1899, Wesleyan University, Middleton, Conn.
Fellow in Chemistry, College of Medicine, 1903.
115 Fairchild St. (Chemical Laboratory)

GUY GRIFFIN FRARY, B. S., 1902, Morningside College.
Fellow in Chemistry, 1903. 114 Fairchild St. (Chemical Laboratory)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Scholar in Pathology, 1903. 9½ S. Dubuque St. (Laboratory Hall)

HARRY EUGENE ILSLEY, B. S., 1899, Coe College.
Scholar in Geology, 1903. 715 N. Gilbert St. (106 Science Hall)

CARL VOLNEY KENT, B. S., 1904.
Scholar in Physics, 1903. 230 Fairchild St. (Hall of Physics)

ANNA JOHNSON, B. A., 1903, South Dakota.
Scholar in Mathematics, 1903. West Side. (113 Liberal Arts)

IDA THERESIA SPEIDEL, B. S., 1903, Iowa.
Scholar in Mathematics, 1903. 20 S. Linn St.

HARVEY HAYES LOCHRIDGE, B. S., 1901, Beloit.
Assistant in Chemistry, 1901. 313 Ronald St.

FRANK DUNN KERN.
Laboratory Assistant in Morphology, 1902. (102 Science Hall)

JOHN CARVILLE.
Assistant in Geology, 1892. 610 Jefferson St. (106 Science Hall)

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist. 8 College St. (4 Science Hall)

SAMUEL WILLIAM SHAFF.
Assistant in Shop Practice, 1902.
20 West Davenport St. (Engineering Hall)

SCOPE OF THE SCHOOL OF APPLIED SCIENCE

No sharp distinction can be made between pure and applied science. The scope of the school, therefore, must be, and must remain, somewhat indefinite, Its management will, however, be especially concerned with the development and maintenance of technical courses in all the departments of science. To this end the interests of these departments as a whole will be promoted in every possible way.

While the operations of the school of applied science will for the present be confined principally to the college of liberal arts, many of the courses offered in this announcement are distinctly graduate courses for which credit will be allowed toward advanced degrees. It is hoped that the scope of the school may be gradually enlarged until it becomes in reality a university school or college of technology.

ADMISSION TO UNDERGRADUATE STUDY

The requirements for admission to undergraduate study in the school of applied science are the same as those for the general scientific course as set forth in the announcement of the college of liberal arts and imply substantially the completion of a high school course of four years.

In the following detailed statement of these requirements a *preparatory credit* is regarded as the equivalent of one study daily for a term or semester of eighteen weeks, four such studies being considered as full high school work. Thus eight credits represent one year's work. It is expected that the following branches will be completed in the grammar school: arithemetic, elementary English grammar and composition, geopraphy, bookkeeping (single entry), physiology (the statutory requirements for primary and grammer schools), United States history (two semesters).

For admission to the college of liberal arts, within which the school of applied science is comprised, thirty preparatory

credits are required; though students whose deficiencies do not exceed two credits may be admitted with the understanding that they shall promptly make up such deficiencies. The preparatory credits for the scientific courses are:

English	6 credits
Foreign Language	4 credits*
History and Civics	2 credits
Mathematics	5 credits
Elective	3 credits

For a detailed account of work which must be completed in the subjects mentioned above the announcement of the college of liberal arts should be consulted.

Those who present thirty credits in acceptable preparatory subjects but who are deficient in *required* preparatory work may be admitted as unclassified students. Such students must make up their deficiencies at once without receiving college credit therefor. When all the entrance requirements have been met, such unclassified students will be transferred to the list of regular candidates for degrees.

Persons over twenty-one years of age may be admitted to such work as they are qualified to undertake, but may not become candidates for degrees until the regular requirements for admission have been fully satisfied.

COURSES LEADING TO BACCALAUREATE DEGREES

The candidate for a baccalaureate degree is required to make an election of one of the general courses of study in the college of liberal arts and will not be allowed, without permission, to change the elected course, nor to register for more than sixteen nor less than fifteen hours of schedule work per week.

The minimum requirement for the bachelor's degree in any one of these courses implies the completion of one hundred and twenty semester hours of collegiate work. The classical, philosophical and scientific courses lead to the degrees of bachelor of arts, bachelor of philosophy and bachelor of science, respectively. Each engineering course leads to the degree of bachelor of science in the branch of engineering specially studied.

*The requirements in foreign language for the scientific courses may be satisfied by two years of Latin, or German or of French: but not by a single year of two languages.

THE ELECTIVE SYSTEM

In each of the general courses of study open to undergraduates at least one-third of the work is purely elective, while another third is elective within certain limits.

The student is strongly urged to advise with his professors concerning the arrangement of his elective work in order that his college course as a whole may have a definite purpose and direction, and, at the same time, afford the broadest and most liberal culture posssible.

SCIENTIFIC AND TECHNICAL COURSES

The courses here tabulated are, with the exception of the general scientific course, those lying strictly within the scope of the school of applied science. The scientific course is included because of its fundamental relationship to all the courses in applied science, properly so-called. Outlines of the combined scientific and medical courses and of the combined course in science and dentistry will be found in the appropriate announcements.

The numbers immediately following the subjects required in the several courses refer to the detailed description of the instruction in these subjects given in the announcement of the college of liberal arts and also, where the subject is one in science, in this announcement. Where no such numbers are given there is more or less freedom of choice, depending upon the student's previous work.

For an outline of the scientific and technical courses see pages 91 to 97 above.

OUTLINE OF INSTRUCTION IN SCIENCE

In the following synopsis of the scientific instruction offered by the university only those departments are iucluded which may be considered as contributing toward what is popularly known as technology. The courses in medicine, dentistry, pharmacy, etc., will be found outlined in the appropriate announcements. No attempt has been made to discriminate between courses in pure and applied science. A description of the equipment of the several department laboratories may be found in the earlier pages of this announcement.

ANIMAL MORPHOLOGY AND PHYSIOLOGY

PROFESSOR HOUSER; MR. LAMBERT, MR.———.

The courses in Animal Morphology and Physiology are described on pages 157-160.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM

The courses in Zoology are described on pages 161-164.

BOTANY

PROFESSOR MACBRIDE; PROFESSOR SHIMEK

The courses in Botany are described on pages 164-166.

SPECIAL COURSES IN THE COLLEGE OF MEDICINE

Special courses, either graduate or undergraduate, are offered in the laboratories of the college of medicine to all students, professional or otherwise, who have had the requisite preparation. Some of the courses are outlined below.

PHYSIOLOGY

DR. MCCLINTOCK; MR. BAILEY

Those wishing to take special work in physiology should have, as preliminary, at least one year's work each in physics, chemistry and morphology, and should have completed elementary courses in physiology. Suitable courses will be outlined to meet the requirements of each student and special arrangements will be made which will enable him to carry on original research work.

Throughout the year; hours to be arranged.

HISTOLOGY AND EMBRYOLOGY

DR. WHITEIS

As a prerequisite to advanced work in this department the student will be required to possess a good working knowledge of both the methods and the subject matter of general histology and embryology. Two courses are offered as follows:

I. THE EYE—The histology of its tissues, considered in relation to both their phylogenetic and their ontogenetic development. The structure and development of the retina will be specially studied. Time to be arranged.

II. THE EAR—The investigation will proceed along the same lines as in the preceeding course. Time to be arranged.

In either course the student will be assigned a private laboratory and offered such opportunities as the general laboratory and library afford. The department will supply the necessary tissues and reagents.

A short course in meat inspection will be offered, for the benefit of those wishing to take the civil service examination in the subject, as soon as the new laboratories can be occupied. Time to be arranged.

PATHOLOGY AND BACTERIOLOGY

ACTING PROFESSOR ALBERT

The following courses are especially designed to meet the requirements of students in the school of applied science:

21 (*22*). THE BACTERIOLOGY OF WATER SUPPLY—A didactic, recitation, demonstration and laboratory course designed to give the student a knowledge of the principles and working methods used in bacteriology; especially those concerned in making a bacteriological analysis of water. The course will include such subjects as the classification of micro-

organisms, their modes of growth, their cultivation, isolation and identification. The relation of such organisms to health and disease will also be considered together with the different methods of disinfection and sterilization. The student will be expected to acquire a working knowledge of the methods used in making a quantitative examination of water such as is necessary to determine the degree of bacterial contamination. He should, moreover, gain sufficient general knowledge of the subject to enable him to draw deductions from and pass judgment upon bacteriological examinations. It is not intended, however, that this course shall prepare the student to make qualitative bacteriological examinations, especially with reference to the isolation of disease-producing germs. For such a training it will be necessary for him to take courses 8 and 9 as outlined below, which are also open to students of the school of applied science.

Two hours a week, throughout the year. Time to be arranged.

For a description of further courses offered in the School of Applied Science by the depaptment of Pathology and Bacteriology, see courses 3, 9 and 10 under this department in the College of Medicine.

GEOLOGY

PROFESSOR CALVIN; PROFESSOR WILDER, MR. ILSLEY

The courses in Geology are described on pages 167-170.

COURSES IN CHEMISTRY IN THE COLLEGE OF MEDICINE

PROFESSOR ROCKWOOD; ASSISTANT PROFESSOR BARLOW, DR. BONNET, MR. GOODWIN

The following courses in chemistry are among those offered in the college of medicine. They may be taken only by students who have studied both organic and inorganic chemistry. A knowledge of physiology is also requisite, and some familiarity with the theory and practice of medicine is desirable. All are open to such students in the school of applied science as may be able to profit by them.

For a description of the courses offered by this department, see courses 9, 10, 11 and 13 under this department in the College of Medicine.

PHYSICS

PROFESSOR VEBLEN; MR. LORENZ, MR. BOEHM, MR. KENT

The courses in Physics are described on pages 174-175.

MATHEMATICS

PROFESSOR WELD; PROFESSOR SMITH, DR. WESTFALL
MR. BECK, MISS JOHNSON, MISS SPEIDEL.

The courses in Mathematics are described on pages 176-182.

CHEMISTRY

PROFESSOR ANDREWS; DR. VON ENDE, MR. LOCHRIDGE,
MR. FRARY

The courses in Chemistry are described on pages 171-173.

ASTRONOMY

PROFESSOR WELD

The courses in Astronomy are described on page 183.

CIVIL ENGINEERING

PROFESSOR SIMS; MR. LAMBERT, MR. SHAFF.

The courses in Civil Engineering are described on pages 183-188.

MUNICIPAL AND SANITARY ENGINEERING AND DRAWING

PROFESSOR MAGOWAN

The courses in Municipal and Sanitary Engineering and Drawing are described on pages 188-190.

ELECTRICAL AND MECHANICAL ENGINEERING

ASSISTANT PROFESSOR WELLS

The courses in Electrical and Mechanical Engineering are described on pages 190-193.

MINING ENGINEERING

PROFESSOR WILDER

The department of mining engineering was organized four years ago, in connection with the department of geology. Its purpose has always been to give such a technical knowledge of mining and metallurgical processes as will enable the student to solve satisfactorily the practical problems that are encountered in mining operations. In planning the course, the duty of the university to send out men who are awake to the responsibilities of citizenship, and the necessity of guarding against a wholly one-sided development, have been kept in mind.

With the year 1904–1905, the department of mining engineering enters upon a broader work, with increased facilities and higher requirements. An extension of the mining and metallurgical laboratories and a large increase in the number of students registering for work in the department are both assured.

The undergraduate course extends over four years, with work during two summers in mining fields. Students in other departments may elect courses in mining when offering the necessary prerequisites. A certain amount of knowledge of this subject may save its possessor from unfortunate investments, and aid in a wise use of capital. The student of law finds mining law an important field, and in his study will be aided by certain of the technical courses offered by this department.

FOREIGN LANGUAGE—Course 3 (4) in German, or 3 (4) in French. It is assumed that the student will have completed the equivalent of the first year in modern language upon entering the university. Otherwise he must take one of the five hour courses 1 (2) in German or 1 (2) in French through the year.

Freshman year; three hours a week.

MATHEMATICS—One of the groups (A), (B), (C) and course 75 (76) in mathematics.

Freshman, sophomore and junior years; four hours a week.

PHYSICS—Courses 1 (2) and 4 in physics.

Freshman year, four hours a week; sophomore year, second semester, four hours a week.

DRAWING—Courses 1 (2) with additional work in free hand drawing.

Freshman year and first semester of sophomore year; two periods a week.

ENGLISH—Course 1 (2) in English.

Sophomore year; two hours a week.

SURVEYING—Courses 3 (4) in civil engineering, without descriptive geometry.

Sophomore year, first semester, four hours a week; second semester, two hours a week.

SHOPWORK—The same as (6) or 7 in civil engineering. One semester; two periods a week.

CHEMISTRY AND METALLURGY—Courses 1 (2), 3 (4), (26), 27 (28) and 8 in chemistry.

Throughout the entire four years of the course, an average of four hours a week.

GEOLOGY AND PETROLOGY—Courses 1 (2) and 11 in geology.

Sophomore year, two hours a week; junior or senior year, first semester, three hours a week.

Prerequisite, general chemistry. Mineralogy must be taken either before or with it. Course 31 (32) may advantageously be taken during the same year. Professor WILDER.

Junior or senior year; two hours a week, Tu., Th., at 11:00.

THEORY OF STRESSES—Course 11 in civil engineering.

Junior year, first semester; three hours a week.

HYDRAULICS—Course 28 in municipal and sanitary engineering.

Junior year, second semester; three hours a week.

ELECTRICAL ENGINEERING—Course 7 (8) in electrical engineering.

Junior year; two or three hours a week.

STEAM ENGINEERING—Course 107 in mechanical engineering.

Senior year, first semester; three hours a week.

POLITICAL ECONOMY—Course 5 in political economy.

Junior or senior year, first semester; three hours a week.

ENGINEERING JURISPRUDENCE—For the present this will be the same as course 25 (specifications and contracts) in civil engineering.

Junior or senior year, second semester; two hours a week.

At the close of the sophomore and junior years expeditions will be organized for geological and mineralogical work in the field in which students in mining engineering will be required to take part. The necessary expenses will be reduced to the lowest possible figure.

For a further description of courses in Mining Engineering see courses 31 (32), 33 (34), 42, 35, 39 (40) on pages 170-171.

MILITARY SCIENCE AND TACTICS

COLONEL GEORGE RITTER BURNETT

The courses in Military Science and Tactics are described on pages 194-199.

SUMMER SESSION

JUNE 20—JULY 30, 1904

THE SUMMER SESSION

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.* 603 College St. (108 Old Capitol)

LAUNCELOT W. ANDREWS, B. PH., 1875, Yale; M. A., PH. D., 1882, Goettingen.

Professor and Head of the Department of Chemistry, 1885.
251 S. Johnson St. (Chemical Laboratory)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor and Head of the Department of Physics, and Secretary of the Faculty of the College of Liberal Arts, 1893.
707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, and Director of the School of Appled Science, 1896. 612 N. Dubuque St. (113 Liberal Arts)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor and Head of the Department of Political Economy and Sociology, and Director of the School of Political and Social Science, 1899. 11 E. Bloomington St. (205 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Professor of American History, and Head of the Department of History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1898. 309 Church St. (120 Liberal Arts)

*Date following title indicates year of appointment to service in the university. The names are arranged in groups according to seniority of appointment to present rank.

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Morphology and Physiology, 1892. 422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895. 219 N. Clinton St. (202 Liberal Arts)

HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.

Professor of Public Speaking, 1900. 308 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.

Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty, 1900. 7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900. 1019 College St. (217 Liberal Arts)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany; Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890. 529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903. 634 Summit St. (106 Science Hall)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.

Assistant Professor in French, 1901. 127½ S. Dubuque St. (120 Liberal Arts)

STEPHEN SHELDON COLVIN, B. PH., 1891; M. A., 1894, Brown; PH. D., 1897, Strassburg. (University of Illinois, 1902–——; Brown University, 1903–1904.)

Philosophy and Education in the Summer Session.

HUBER GRAY BUEHLER, B. A., 1883; M. A., 1886, Pennsylvania College. (Master, Hotchkiss School, Lakeville, Conn.)

English in the Summer Session, 1903.

ROSE M. KAVANA, B. A.; M. A., Vassar. (Head of Department of English, Medill High School, Chicago.)
English in the Summer Session, 1904.

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899.
127½ S. Dubuque St. (12 Liberal Arts)

MABEL CLARE WILLIAMS, B. PH., 1899; PH. D., 1903, Iowa.
Instructor in Psychology, 1899.
108 N. Johnson St. (215 Liberal Arts)

JOSEF WIEHR.
Lecturer in German in the Summer Session.

WALTER MARTINUS BOEHM, B. S., 1902, Iowa.
Assistant in Physics, in the Summer Session, 1900.
406 S. Clinton St. (Hall of Physics)

FRED J. SEAVER, B. S., 1902, Morningside College.
Assistant in Botany in the Summer Session, 1902.

ETHEL ANNA ELLIOTT, B. A., 1903, Iowa.
Assistant in Public Speaking in the Summer Session, 1904.

HARRY M. IVINS,
Assistant in Animal Morphology and Physiology in the Summer Session, 1904.

For the faculty of the *Summer School of Library Training* *see page 39 of this announcement.*

Others instructors, demonstrators, assistants, or readers will be named later. Provisions may also be made for additional subjects. The privilege of modifying the present announcement to meet unforseen exigencies is reserved. Not many changes are at all likely to occur.

THE SUMMER SESSION COMMITTEE

Professor BOLTON, chairman; Professor SHIMEK, secretary; Professors WILCOX, ANSLEY, ANDREWS.

GENERAL INFORMATION

GROWTH OF THE SUMMER SESSION

In the four years of its maintenance the attendance has more than doubled in numbers, and each year there has been an increasing number of advanced students to take advantage of the opportunities offered for uninterrupted study along special lines. During the last session seventy-seven graduate students were in attendance. Each year also a greater number of high school teachers and city superintendents have taken advantage of the opportunities offered.

FOR WHOM DESIGNED

The summer session is an integral part of the regular university work, being the first term of the scholastic year. New students can enter at this time as well as at the beginning of either semester. The courses are so arranged as to supplement those offered during the rest of the year, and hence new or old students find no difficulty in classifying and securing work adapted to their needs. The experience of previous sessions has demonstrated the value of the work for the following classes of students:

1. *Superintendents* and *principals* who desire to continue academic and professional work and come in touch with recent advances in education.

2. *High school teachers* who wish to study special subject matter or educational theory.

3. *Elementary and grammar school teachers.* Many courses, especially those in literature, education, psychology, ethics, history, politics, nature study, physiology, and sociology, will be of exceeding value to the teachers below the high school as well as those in the high schools. Success in the elementary

school depends as much upon breadth of culture as upon technique and primary methods.

4. *Candidates for state certificates* will find an opportunity to strengthen themselves on most of the subjects included in the state examinations.

5. *Regular students of the university* who desire to shorten the time of their course may do so by attending the summer sessions. Many students throughout the country by this means graduate in three years.

6. *Normal school graduates* and others desiring to ultimately take a degree will find it to their advantage to attend.

7. *Graduate students* will find ample opportunity in all departments to pursue work advantageously.

8. *Persons desiring preparatory credits* for entrance to the university will find several subjects of special value. See Latin, German, French, English, mathematics.

ADMISSION

All students seeking credit in the university will be expected to meet the requirements for admission as stated in the annual calendar.

All other applicants for admission to the summer session will be permitted to schedule for such work as, in the judgment of the professors concerned, they may be able to pursue to advantage.

UNIVERSITY CREDIT

1. Credit will be given for all work of collegiate grade, unless otherwise stated, if the student has complied with entrance requirements. 2. No student desiring credit may take more than twenty hours per week and credit will not be allowed for duplicated work.

2. Credit will be given on the same basis as for the regular work of the year. That is, each hour during the summer session will equal one-third of one semester hour. A course of two hours a week will equal two-thirds of one semester hour; a course of five hours a week will equal one and two-thirds semester hours, etc.

3. Ample opportunity will be afforded students to schedule for work leading either to university or to preparatory credit. The maximum amount of credit which may be earned in the summer session is six and two-thirds semester hours.

PROJECTED REGISTRATION

By special permission of the faculty experienced teachers who have been in regular attendance during the summer session, and who are regularly matriculated in the university, may continue their work at home during the year. By this means they may reduce the residence requirements for graduation. The amount of work allowed in non-residence will be determined for each case separately.

ST. LOUIS EXPOSITION

In view of the desire on the part of some students to attend the St. Louis Exposition and also the summer session of the university, certain departments will allow credit to regular students of the summer session for one week's attendance at the Exposition and special observation of the exhibits representing the work of the specified departments. Students desiring to make this arrangement should notify the head of the department in advance and secure instruction concerning observation and notes to be made. The departments of botany, education, sociology, and economics will grant such concession.

FACILITIES

All the resources of the university are placed at the disposal of the summer session. All the laboratories and libraries in the departments of letters and science will be open, and every department will offer work of a grade equal to that given during the rest of the year. In most cases the heads of the departments will give instruction.

GENERAL LECTURES AND ROUND TABLE MEETINGS

Saturday morning of each week will be devoted to general lectures and to the weekly chapel exercise.

Every summer a series of public lectures, many of them illustrated, has been provided without expense to the students of the summer session. Arrangements are under way to offer an especially attractive programme by members of the faculty, eminent superintendents, and others. A definite programme of the lectures to be given will be announced at the opening of the session.

Round table meetings for the discussion of various topics of interest to educators will be organized by those in attendance upon the session, as circumstances may suggest.

There will be opportunities to listen to addresses by prominent educators from other institutions.

Nearly every department offers a teachers' course in addition to the regular academic work.

SPECIAL COURSES

ENGLISH—In view of the increased interest in better English teaching in the public schools, and hoping to enable Iowa schools to continue in the lead in this advanced movement, a special effort has been made to secure some of the best specialists in high school English that the country affords. It is with much pleasure that announcement is made that Professor Huber Gray Buehler, Master in the famous Hotchkiss school for boys at Lakeville, Conneticut, will give instruction again this summer. Miss Rose Kavana, Head of the Department of English in the Medill High School, Chicago, has also been secured to give two courses in English. Both of these are eminent specialists in high school English. They are not only authorities in the subject, but they are engaged in the practical teaching of this branch in two of the best secondary schools in the country.

PUBLIC SPEAKING—Teachers who have charge of rhetoricals in the high schools will find these courses of great benefit to them in their work. Oral expression is the most useful practical application of English. Grade teachers may also find much in the courses that would find every-day application.

NATURE STUDY—Professor Shimek of the department of botany will again offer a course in "out-door botany" that will be of value to every high school teacher of botany and every teacher in the grades. The attendance in this course last year is evidence of the large demand for it.

PHYSIOGRAPHY—The teachers' course in geographic geology is offered for the first time and is designed to be of special value to teachers of physical geography in the high school. It will have distinct value for every grade teacher as well.

PHYSIOLOGY—The course in applied physiology will attempt to give an exemplification of what modern and thoroughly practical physiology should be. It will be of great value to students personally as well as desirable for teachers of physiology.

EDUCATION (a)—THE HIGH SCHOOL—Problems of the high school are everywhere attracting attention and there is necessity for their careful consideration. The period of life covered by the high school is one of the greatest concern in the whole life of the individual and therefore demands the wisest possible guidance. The interest in the course on the high school last year more than warrants its repetition. As it will be given by a different instructor, the course will not duplicate the work of last year.

(b) PHILOSOPHY OF EDUCATION—This course will be given by Dr. Colvin of the University of Illinois, and will not duplicate any course previously offered in the department. Dr. Colvin has studied in Europe and at Clark University, and has also had large practical experience as a teacher in the high school at Worcester, Massachusetts. His regular work is in psychology and education at the University of Illinois.

STATE EXAMINATIONS

In the special interest of those students who may wish to secure state certificates or state diplomas, the State Board of Educational Examiners will hold an examination at the university on July 28, 29, 1904.

EXPENSES

The tuition fee for the summer session is five dollars, which fee covers all dues to the university. Tuition is free in the graduate college.

There are no dormitories and no commons connected with the university. Clubs may be formed, in which the cost of day board is from $2.00 to $2.50 per week. Room rent varies from 50 cents to $1.50 per week for each student. Boarding and lodging in private houses can be obtained for from $3.50 to $5.00 per week.

Inquiries regarding rooms and board may be made of the Secretary of the Young Men's Christian Association.

REDUCED RAILROAD RATES

The railways last year granted a fare of one and one-third on the certificate plan. Similar rates will doubtless be granted for the coming session. Students should pay full fare going, taking a receipt therefor. If more than one line of railway is traveled over, a receipt should be taken over each road. If the

requisite number of certificates are presented to the director, the usual one-third fare will be granted.

REGISTRATION

Students upon arriving at the university, should present themselves at the office of the director of the summer sesion, room 217, hall of liberal arts, for registration and assignment to classes.

Office hours of the director of the summer session, 11-12 and 2:30-3:30 daily.

Office hours of the president of the university, 11 A. M. to 12:15 P. M:

Any further information desired may be obtained by addressing the president of the university, or Professor Frederick E. Bolton, director of the summer session, Iowa City, Iowa.

OUTLINE OF THE PLAN OF INSTRUCTION

The courses offered in the several departments represented in the summer session are here outlined. Those desiring more detailed information should communicate directly with the professors concerned.

For the determination of credits see p. 21.

GREEK LANGUAGE AND LITERATURE

PROFESSOR FAIRBANKS

i. BEGINNING GREEK—White's *First Greek Book*. Students completing this course successfully are able to go on with course 2 (Xenophon's Anabasis) in the second semester, or to continue their work in the following summer session. Ten hours a week; three or four semester hours credit.

Daily, at 8:00 and 2:30.

ii. HOMER, ILIAD—Introduction to the Greek epic, its origin, its language and verse, its structure. Open to students who have completed Greek 1 (*a*) or the equivalent.

Daily, at 9:00.

iii. PLATO, REPUBLIC—Selections are read with special reference to the proposed system of education; reports on the remainder of the Republic; lectures on Plato's theory of education in its relation to his philosophy.

Daily, at 10:00.

The lectures will be given on Friday; students may schedule for this one hour as iii b. For the work of this hour no knowledge of Greek is required.

LATIN

PROFESSOR POTTER

i. CICERO—Orations against Verres.

Daily at 9:00.

ii. TEACHERS' COURSE—Lectures on Latin syntax, particularly the syntax of the moods and tenses, with practical exer-

cises in the syntax of the authors read in preparatory schools, Mon. and Tu. Methods for First Year Latin: lectures and exercises, Wed. Exercises in writing Latin, Thu., Fri.

Students taking this course will require a copy of Hale and Buck's Latin grammar and some edition of Cæsar, of Cicero's Orations and of Vergil.

Daily at 8:00.

iii. PETRONIUS—Cena Trimalcihonis; APULEIUS—Cupid and Psyche. This course is primarily for graduates, but is open to any student who has had at least two years of college Latin.

Daily at 7:00.

FRENCH AND SPANISH*

PROFESSOR VAN STEENDEREN: ASSISTANT PROFESSOR BUSH

i. ELEMENTARY COURSE IN FRENCH—Designed for teachers and students who wish to learn to read French sufficiently well to enable them to continue the study themselves for the purpose of research in other branches and for general culture. Good training in pronunciation. Study of grammar for reading purposes only. *Edgren's Short French Grammar*, and *Quatre Contes de Mérimée.*

Daily at 9:00.

ii. CONTEMPORARY FRENCH NOVEL—Open to students who have studied French during one semester at least. After a few lectures on the literary movements of the nineteenth century, the class will take up the study of short novels and stories by Mérimée, Alphonse Daudet, and Guy de Maupassant. Frequent opportunities for expression in French will be given.

Mon., Wed., Fri., at 10:00.

iv. THE GREAT WRITERS OF FRANCE—A series of lectures for the benefit of those students who have not been able to acquaint themselves at first hand with the masterpieces of French literature. The course aims only to give a rapid sketch of the greatest men in French literature and to impart some conception of their spirit and what their works contain of permanent value. The lectures will be supplemented by the reading of the works of different writers available in English. A previous knowledge of French is not required. Before register-

*The courses in this department form units by themselves and are not parts of longer courses.

ing consult the professor in charge. Assistant Professor BUSH.
Daily; hours to be arranged.

iii. ELEMENTARY COURSE IN SPANISH—Designed to impart a fair ability in the reading and the practical use of everyday Spanish. The course includes drill in conversation, business correspondence, reading of newspapers. *Introduccion à la lengua Castellana* by Marion y des Garennes, and *Matzke's Spanish Reader.* Professor VAN STEENDEREN.
Daily, at 8:00.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR WILSON; MR. WIEHR

i. GERMAN DRAMA—Open to students who have studied German at least one year. Should be taken in connection with course ii. Conducted in German and English. Professor WILSON.
Mon., Wed., Fri., at 8:00.

ii. GERMAN COMPOSITION—Designed to give such persons as already have an acquaintance with German some practice in composition and niceties of idiom. Should be taken in connection with course i. Conducted in German. Professor WILSON.
Tu., Th., at 8:00.

iii. GERMAN SEMINAR—For advanced students. The instruction is personal, and students are allowed some latitude in the choice of subjects, the work being adapted to individual tastes and qualifications. The course is carried on by the laboratory method and in a room adjacent to the German library, where students have easy access to excellent material. The amount of credit is determined for each case separately. Professor WILSON and Mr. WIEHR.
Daily, at 9:00.

iv. GERMAN LIFE—A course of lectures in German on German life, institutions, and customs. There are occasional discussions, in German, of the lectures. The course thus affords incidentally an excellent opportunity for practice in conversation about interesting topics. Mr. WIEHR.
Daily, at 10:00.

ENGLISH

MR. BUEHLER, MISS KAVANA, MR. ———

During the first three weeks of the summer session (June 18 to July 8) two courses in the teaching of English in secondary schools will be given by Miss Rose M. Kavana, of the Medill High School, Chicago. Each course will occupy five hours a week for the three weeks. The subjects of these courses are not yet announced.

Following the courses given by Miss Kavana, two courses will be offered in the last three weeks of the session by Mr. Huber Gray Buehler, English Master in the Hotchkiss School, Lakeville, Connecticut. In one of these courses the teaching of English grammar will be considered and the more difficult problems will be presented in illustration. In the other course Mr. Buehler will discuss the teaching of English classics in secondary schools. The classics he will use as examples are Coleridge's *Ancient Mariner*, Lowell's *Vision of Sir Launfal*, Tennyson's *Princess*, and Shakespeare's *Merchant of Venice*.

The courses offered by Mr. Buehler and Miss Kavana are intended primarily for teachers and for students who intend to teach, though other students interested in English or in education may find them helpful. A third instructor from some college faculty will offer two courses continuing throughout the six weeks of the summer session, five hours each week; and these courses will be studies in English literature with no direct reference to teaching.

PUBLIC SPEAKING

PROFESSOR GORDON; MISS ELLIOTT

i. THE ART OF PUBLIC SPEAKING—A general course to prepare the student for the work of public speaking and reading. The work is adapted to individual needs as far as possible. Miss ELLIOTT.

Daily, at 9:00 and 1:00.

ii. LITERARY INTERPRETATION—A study of literary forms with reference to their vocal interpretation. Professor GORDON.

Daily, at 9:00.

iii. PUBLIC ADDRESS—The preparation and presentation of an argument; preliminary reading; rhetorical structure; evidence; briefing and delivery. Professor GORDON.

Daily, at 10:00.

HISTORY

PROFESSOR WILCOX

i. THE EASTERN QUESTION—This is a course of lectures on contemporary world-politics. The history of the eastern question, the eastern question in Europe, in Asia, in Africa, the six great powers and the eastern question, and the possible solutions of the eastern question, are the subjects open for consideration.

Daily, at 10:00.

ii. SECESSION AND RECONSTRUCTION—This is a course of lectures on the period of United States history from the compromise measures of 1850 to the close of the period of reconstruction in 1870.

Daily, at 1:30.

iii. FIVE UNCROWNED RULERS OF MODERN EUROPE—This course consists of a series of five lectures. They occur Saturday mornings at nine o'clock, in room 224, hall of liberal arts. They are open to all students and to the public without registration.

One hour a week.

Candidates for advanced degrees can pursue their work in special research under the same direction as during the regular university year. Such work consists of personal conferences accompanied by individual work in the library.

POLITICAL ECONOMY AND SOCIOLOGY

PROFESSOR LOOS

i. CURRENCY AND BANKING—Metallic money and credit instruments; the principles of banking; the history of banking; government demand obligations and credit financiering.

Daily at 11:00.

ii. SOCIALISM AND CONTEMPORARY SOCIAL LEGISLATION—Socialism and sociology distinguished, social values and social welfares; socialism and political economy, forms of dissent from the classical political economy; early English and

French socialism; the co-operative movement; German socialism; anarchism and the international; the reaction of socialism on economics with a parallel study of recent tendencies in social legislation.

Daily at 8:00.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH

i. INTRODUCTION TO POLITICAL AND SOCIAL SCIENCE—Lectures on the origin of man; the origin of institutions; the beginnings of culture; the origin of government; and the laws and processes of political and social evolution.

Daily, at 7:00.

ii. MODERN EUROPEAN GOVERNMENTS—A comparative study of the leading governments of modern Europe, including the government of England; the government of Switzerland; the government or France; the government of Germany; and the government of Belgium.

Daily, at 9:00.

PHILOSOPHY AND PSYCHOLOGY

PROFESSOR SEASHORE; DR. COLVIN, DR. WILLIAMS

i. INTRODUCTION TO PSYCHOLOGY — A brief survey of the entire field of psychology, especially adapted for teachers who can take only a short course. The lectures will be accompanied by demonstrations with apparatus and other illustrative material from the psychological laboratory, and by supplementary reading. This course serves as an introduction to all other courses in the department of philosophy. Professor SEASHORE.

Daily, at 8:00.

ii. INTRODUCTION TO PHILOSOPHY—An elementary study of fundamental philosophical questions with some reference to historical relations. Designed for students who wish to make a brief study of the great problems of philosophy and their significance in other fields of thought. Paulsen's *Introduction to Philosophy* will be used as a basis. Lectures, required reading, and recitations. Dr. COLVIN.

Daily, at 9:00.

iii. ETHICS—An elementary course on the psychology of conduct and the moral judgment, the development of conduct

and ethical theories, the standards of morality, duties, virtues, and the moral life of the individual and society. Dr. WILLIAMS.

Daily, at 10:00.

iv. LABORATORY COURSE IN PSYCHOLOGY—A series of selected experiments so arranged as to familiarize the students with the method, the apparatus, and the results of typical experiments in each of the approved lines of psychological studies, and especially to furnish training in accurate observation and interpretation of mental processes. May be taken with or in sequence to course i. Three laboratory periods and two lectures a week. Professor SEASHORE and Dr. WILLIAMS.

Daily, at 1:30:

v. RESEARCH IN PSYCHOLOGY—Original investigation of special problems in psychology. Advanced individual work in the laboratory for graduate students. In this course special attention may be given to preparation for the experimental study of school children. Professor SEASHORE.

EDUCATION

PROFESSOR BOLTON; DR. COLVIN

Courses i, iii, and iv will not be duplicates of work given last summer. Students who took those courses may take those offered this session as supplementary.

i. PROBLEMS IN EDUCATIONAL PHILOSOPHY—Some of the most fundamental topics in the philosophy of education will be carefully considered. Designed for those who have had some elementary pedagogy or teaching experience. Superintendents, principals, and teachers desiring to consider carefully from the most modern standpoints some of the fundamental problems of education will find this course adapted to their needs. Will supplement, and not duplicate, course iii given last summer. Dr. COLVIN.

Daily, at 2:30.

ii. CHILD STUDY AND ELEMENTARY EDUCATION—The scope, methods, and literature of child study; its relation to elementary education, and its value and necessity for parents and teachers. Such topics as imitation, children's play, imagination, the beginnings of child language, elementary ideas of law

and order, beginnings of moral notions, fears, use of stories, nature study, etc., will be considered. Lectures and readings. Professor BOLTON.

Daily, at 4:30.

iii. THE HIGH SCHOOL — General problems, historical considerations, relations to the lower grades and to the colleges, courses of study, educational values, sequence of studies, methods, text-books, government and training of adolescents, and the organization of the high school. Special problems of Iowa high schools will receive careful consideration. Lectures and required reading. Professor BOLTON.

Daily, at 3:30.

iv. WEEKLY ROUND TABLE—The purpose will be to discuss current educational topics and to get in touch with educational literature. Credit given, if taken in connection with some other course. Professor BOLTON; Dr. COLVIN.

Wed., at 4:30.

v. RESEARCH WORK FOR ADVANCED STUDENTS — Advanced students pursuing research and special investigations will be afforded ample opportunities and will receive personal direction in their work. Professor BOLTON.

ANIMAL MORPHOLOGY AND PHYSIOLOGY

PROFESSOR HOUSER; MR. IVINS

i. ANIMAL PHYSIOLOGY—This course is intended to provide a broad and thorough training for those who expect to teach physiology in the high schools. Laboratory work, with accompanying lectures and assigned reading. The laboratory studies involve: (*a*) dissection of the cat, sheep's heart, brain, and eye; (*b*) microscopical study of the animal cell, the tissues of vertebrates, and the organs of mammals; (*c*) demonstrations and experiments. The lectures present the essential principles of animal physiology. Applicants for this course should bring their dissecting instruments, if they are so supplied.

Daily, 1:30 to 3:30.

ii. APPLIED PHYSIOLOGY—An advanced course of lectures for those who have completed the equivalent of course (i). The factors which condition the physical life of man are here considered, including: the inherited mechanism; the economy of nutrition; food adulterants; disease-germs and their dissemination; sources for the contamination of solid foods, milk, water,

and air; animal parasites; mental and muscular work, recreation, and sleep; clothing and care of the person; sanitation of the home and school. The topics are treated from the biological standpoint.

Tu. and Th., 9:00 to 10:00.

BOTANY

PROFESSOR SHIMEK; MR. SEAVER

i. A TEACHERS' COURSE IN PLANT ECOLOGY—Intended primarily for teachers of botany in Iowa high schools. The course consists of laboratory and field investigation of the local flora, with special reference to the conditions which determine the distribution of plants. It is essentially a study of the "botany of out-of-doors," and is intended to familiarize the teacher with illustrative material available for class use, especially within the limits of our own state.

Directions and opportunities are also offered for the preservation of such illustrative materials for high school use.

In connection with this course one hour a week will be devoted to the discussion of certain phases of nature study.

Daily, at 3:30.

ii. COMPARATIVE MORPHOLOGY OF PLANT TYPES—This course consists of lectures and laboratory investigation of the structure and life-history of local and state types of the principal groups of plants, supplemented by lectures.

Two hours daily are required in the laboratory. Slime moulds, schizophytes, diatoms, algæ, fungi, mosses, ferns, and flowering plants are successively taken up in the laboratory, and some attention is also given to field work.

Daily, 1:30 to 3:30.

iii. GENERAL PLANT HISTOLOGY AND PHYSIOLOGY—This is a laboratory course requiring two hours daily, and is supplemented by lectures. The microscopic structure of higher plants is studied, and the student receives instruction in the laboratory technique required for the preparation of sections, etc.

In connection with this course the equivalent of at least one hour a week will be given to the study of the physiology of the plant-cell.

Daily, 7:00 to 9:00.

iv. SPECIAL COURSES in advanced botanical research may be arranged for those prepared for such work.

Illustrated lectures will supplement all of the courses.

The botanical reference library will be available for reference.

The extensive collections in the university herbarium are freely used in the work, and offer special advantages to those who desire to do systematic advanced work.

GEOLOGY

PROFESSOR WILDER

i. GEOGRAPHIC GEOLOGY, TEACHERS' COURSE—This is a course intended to meet the needs of those who expect to teach physical geography and geology in high schools. It will include a study of the origin of the physical features of the earth, the agencies of geographical development and change, and an outline of historical geology. Large use will be made of illustrative materials, including rocks and mineral specimens, models, maps, photographs and lantern slides. A number of field excursions are included in the course.

Daily, at 11:00.

ii. ELEMENTARY MINERALOGY AND PETROLOGY—This course will include a study of the common economic minerals, and the application of easy determinative tests; the common rock-forming minerals and the common rocks. The aim of the course is to give a practical familiarity with common minerals and rocks rather than a technical knowledge of them.

Daily, at 10:00.

iii. PRINCIPLES OF GEOLOGY—This course is intended to present the fundamental facts of geology to students who wish to become acquainted with the principles of the science without making a specialty of it. Lectures, illustrated with museum specimens, views, maps, and microscopic preparations.

Daily, at 1:30.

(The course in geographic geology will be recommended to students not familiar with the fundamentals of zoology, botany and physiography, rather than the course in principles of geology.)

CHEMISTRY

PROFESSOR ANDREWS

i. QUALITATIVE ANALYSIS—This is an elementary course in the detection of bases and acid radicals. Some knowledge of the principles of chemistry, such as that obtained by a one year high school course, is required as a preparation. Three lectures and seven laboratory periods a week. (This may also be taken as a single course of five hours by those who have had some practice in qualitative analysis previously.)

ii. SELECTED TOPICS IN PHYSICAL CHEMISTRY—Determination of vapor densities and of molecular weights, the principles of mass-action, dissociation. Two lectures and three laboratory periods a week. The same preparation as for course 1 is requisite as a minimum, but a further preparation of a term's work in qualitative analysis is desirable.

iii. VOLUMETRIC ANALYSIS—The principles, preparation of standard solutions, sources of error, practical applications. Lecture once, laboratory four times a week. The same prepation as for course 2 is necessary.

Credit will be given for course 1 when taken as a double course and for course 2.

PHYSICS

PROFESSOR VEBLEN; MR. BOEHM

i. ELECTRICITY AND MAGNETISM—Lectures, recitations, and demonstrations, to cover the work in electricity and magnetism substantially as pursued in the first year's course in physics, given during the regular session of the university. To take this course students should have at least the mathematical knowledge and training requisite to admit them to the freshman class.

Daily, at 11:00.

ii. LABORATORY WORK—The work in the laboratory being entirely individual, students of various degrees of advancement can be accommodated at the same time. It is required, for admission to laboratory courses, that the candidate should have at least a good elementary preparation in physics. Students who have had work equivalent to the first year's course in physics in the university, may obtain university credit for laboratory work pursued for not less than six hours a week during the session. For teachers the work in the laboratory can be arranged to meet individual needs, such as gaining familiarity

with particular pieces of apparatus, or carrying out special lines of experimentation.

The laboratory will be open to students every forenoon and afternoon except Saturday, and it is expected that each student will work during two consecutive hours upon each exercise. Courses of two or more exercises a week may be arranged. Amount of credit to be determined at the end of the term.

iii. GRADUATE WORK—The laboratory and the special library of the department will be open to graduate students under the usual conditions. They will enjoy the same facilities and advantages as are offered at other times of the year to those pursuing special or advanced work.

If it be found useful and desirable, in addition to the courses here outlined, lectures will from time to time be given on special topics, such as development of laws and formulas or the practical presentation of subjects by the aid of illustrations and demonstrations. Conferences for the discussion of methods of class and laboratory teaching may be conducted by the instructors, if desired by teachers and those preparing to teach.

MATHEMATICS AND ASTRONOMY

PROFESSOR WELD; DR. WESTFALL

The following courses in mathematics will be given with special reference to the needs of high school teachers. University credit may be given only for courses iv. and v., and under certain circumstances, course i. Courses ii. and iii. are arranged with reference to the needs of teachers preparing to take examinations for state diplomas and of students seeking admission to the university.

The instructors will give liberally of their time and service to those wishing direction in any of the lines of study coming within the scope of the department. Special appointments will be made with individuals.

i. ALGEBRA—This will be essentially a teachers' course, both the subject matter and methods of presentation being given careful attention. The theories of the minus sign and of the exponent will be considered at the outset. Drill work in the fundamental operations will be given, especially in factoring. The simple equation of the first degree will next be studied and geometrically interpreted, after which the quadratic equation will be treated in a similar manner. Attention will also be given to systems of simultaneous equations. The course will include

a study of imaginary expressions, and their interpretation. Professor WELD.

Mon., Wed., Fri., at 9:00.

ii. PLANE GEOMETRY—This course will be presented with due reference to methods of instruction. The so-called *heuristic*, laboratory, and other methods of teaching geometry will be discussed and illustrated. At the same time the work will be so conducted as to enable the student to obtain a comprehensive view of the subject. Especial notice will be taken of the needs of those intending to pass the examinations for state diplomas or for admission to the university. Dr. WESTFALL.

Mon., Wed., Fri., at 8:00.

iii. SOLID GEOMETRY—Those deficient in solid geometry and who intend to enter the university in the near future will be given an opportunity to make up this requirement for admission to full freshman standing. Dr. WESTFALL.

Tu., Th., at 8:00.

iv. TRIGONOMETRY—This course will be limited to plane trigonometry and can be taken only by those having a good knowledge of geometry and algebra. The subject will be studied with special reference to its practical applications to surveying, navigation, mensuration, etc. Credit, one semester hour. Professor WELD.

Mon., Tu., Th., Fri., at 7:00.

v. HIGHER MATHEMATICS — Courses in higher mathematics will be arranged, with only reasonable limitations, to meet the requirements of all who may present themselves for such work. Correspondence with reference to the specific lines of work desired is invited. The credit allowed will depend upon the amount and quality of work done. Two, three or five hours a week; special appointments will be made if necessary. Professor WELD; Dr. WESTFALL.

Mon., Wed., Fri., at 8:00, and Tu., Th., at 9:00.

vi. ASTRONOMY—If desired, a brief course in practical astronomy will be given. The instruments at the observatory will be used for the determination of time, latitude and longitude. Many of the more interesting celestial objects will be located and studied with the aid of the telescope. The subject will be further illustrated by the exhibition of the series of lantern slides belonging to the department. Time to be arranged. Professor WELD.

SUMMER SCHOOL

FOR

LIBRARY TRAINING

A DEPARTMENT OF THE SUMMER SESSION, UNDER THE AUSPICES OF THE

IOWA LIBRARY COMMISSION

MEMBERS OF THE COMMISSION *Ex-officiis*

JOHNSON BRIGHAM, *State Librarian*,
President.

JOHN F. RIGGS, *State Superintendent of Public Instruction.*

GEORGE E. MACLEAN, *President of the State University of Iowa.*

MEMBERS OF THE COMMISSION BY APPOINTMENT

MRS. HARRIET C. TOWNER, Corning.
MRS. JESSIE WAITE DAVIDSON, Burlington.
MRS. ELIZABETH S. NORRIS, Grinnell.
CAPT. W. H. JOHNSON, Ft. Dodge.

ALICE S. TYLER,
Secretary of the Commission.

FACULTY

GEORGE E. MACLEAN, Ph D., LL. D.,
President and Lecturer on Library Subjects.

ALICE S. TYLER, *Illinois State Library School*,
Director and Instructor in General Library Subjects.

ESTHER CRAWFORD, B. L., Iowa State College, *N. Y. State Library School*,
Head Instructor in Classification and Cataloging.

HARRIET A. WOOD, B. A., Vassar, *N. Y. State Library School,*
Reference Work, Accession and Shelf-Work.

ANNIE CARROLL MOORE, *Children's Librarian, Pratt Institute Library, Brooklyn, N. Y.,*
Library Work with Children and Children's Literature.

FANNY DUREN, *Illinois State Library School,*
Reviser.

LECTURERS

JOHNSON BRIGHAM, *State Librarian, Des Moines.*

MRS. HARRIET M. TOWNER, *Library Commissioner, Corning.*

MARY EILEEN AHERN, *Editor Public Libraries, Chicago.*

EDITH TOBITT, *Librarian, Public Library, Omaha, Neb.*

BESSIE SARGENT SMITH, *Librarian, Carnegie-Stout Public Library, Dubuque.*

MARGARET WRIGHT BROWN, *Traveling Library Dept., Iowa Library Commission, Des Moines.*

HARRIET A. WOOD, *Librarian, Public Library, Cedar Rapids.*

IOWA SUMMER LIBRARY SCHOOL

The Iowa Library Commission takes pleasure in announcing that the fourth annual session of the Summer School for Library Training will be held at the State University, Iowa City, Iowa, as a department of the summer session of the State University of Iowa, June 18 to July 30, 1904.

OBJECT

This course is intended for the librarians of the smaller libraries, for assistants in the larger libraries, and for those definitely appointed to library positions, who wish to prepare for their work. It is in no sense offered as a substitute for the full course of one of the regular library schools, but is given for those who feel their lack of knowledge of modern library methods and have not the time or means to attend a library school. By securing a leave of absence for six weeks they can in a brief, systematic course, such as is planned, gain a broader view of the work as a whole. The aim will be to give as thorough a course of technical library training as can be compressed into six weeks of close work, with the needs of the Iowa libraries especially in view.

SUBJECTS

In all cases where the subject admits, instruction will be accompanied by practice work which will be carefully revised and criticised.

The following subjects will be included in the lectures given during the course:

Note-taking,
Library handwriting,
Book selection and buying,
Trade bibliography,
Mechanical preparation of books,
Accessioning,
Shelf listing,
Classification,
Author numbers,
Cataloging,
Serials,
Loan systems,
Statistics,
Library work with children,
Reference work,
Reading lists,
Interior arrangement of a library,
Libraries and schools,
Library extension,
Library commissions and traveling libraries,
Library administration,
Binding and repair of books,
Library ideals,
Library architecture,
State and U. S. publications.

INSTRUCTORS

The instruction in classification and cataloging will be given by Miss Esther Crawford of the Carnegie Library School of Western Reserve University Library, Cleveland, O., who is so well and favorably known to Iowa librarians. Miss Crawford is recognized as an authority in her subjects and her instruction is given from the fullness of wide experience and close study.

Library work with children will again be given by Miss Annie Carroll Moore, Head of the Children's Department, Pratt

Institute Library, Brooklyn, N. Y. Miss Moore has been intimately identified with the movement in recent years to give this work the prominence it deserves, and now has, in the libraries of the United States. Her course in the summer session has proven a most popular and helpful feature of the school.

COURSES

Subjects of technical interest to library workers, affecting the orderly arrangement and conduct of the library, will be given due prominence. The essential records—accession and shelf—will be explained with practical work sufficient to make them clear. Simple and practical loan systems will also be discussed.

The course in cataloging and classification will deal with the fundamentals of each subject, and on the supposition that the student has had little, if any, previous instruction.

Classification will be based upon the decimal system (abridged edition) and the Cutter author numbers will be used. The course in cataloging extends through two sessions, instead of one, thus reducing the "cramming" process and its consequent evils. The first year's course will cover the elementary principles of author and title entry and will extend through the first four and one-half weeks of the session. The second year's course will extend through the entire six weeks, covering the principles of subject and analytical cataloging. The second year's course will be open to only a limited number of students, admission being based on the quality of the first year's work previously done in this school and subsequent experience, or upon satisfactory evidence furnished as to previous training and actual library record work. Former students, who return, are advised to take one of the regular courses outside of the library school.

LIBRARY WORK WITH CHILDREN

During the last two weeks of the session, from July 18 to 30, instruction will be given on this subject and students will be admitted for it alone. No feature of library work is of such vital importance as the work with children. For this reason this will be an especial feature of the school and it is anticipated that many besides librarians will come for this two weeks' course. Teachers and mothers will find it practical, helpful, and in-

spiring. Library trustees will get from it much that will help them in dealing with the perplexing question of children's books.

This course includes three series of lectures.

Series I. Special Lectures upon the principal classes of children's books:

Mythology and fairy tales,

History and historical stories,

Picture books and easy books for little children,

Fiction for boys and girls.

(Students will also be given problems in connection with each class of books.)

Series II. Special lectures upon important features of the work of a children's department:

Personal relations between the children's librarian and the children, the teachers, and the parents,

The necessary records and statistics of a children's department.

How to make a picture bulletin and when to make one.

(Experience meetings will be a feature of this series.)

Series III. General Lectures:

The history of children's libraries,

The selection of books for a children's library,

The decorating and furnishing of a children's room or corner,

Cooperation between the public library and the public school,

Library leagues, story-telling, and other special features in library work for children.

(A list of suggested reading will accompany these lectures.)

REFERENCE WORK

Reference work will receive the attention which its importance warrants; and helpful methods for aiding students in their researches, the best books on selected subjects, etc., will be discussed.

The instruction will be based upon "Miss Kroeger's Guide to the Study of Reference Books." Especial attention will be called to "Selected Reference Books" (N. Y. State Library School Bulletin 4); and to the excellent list of "Books suggested for school reference libraries" issued by the Buffalo public library.

LECTURES

Lectures will be given during the course by members of the State University and members of the Library Commission. Dr. George E. MacLean, President of the State University; Johnson Brigham, State Librarian, and Mrs. Harriet C. Towner, all members of the Library Commission, are expected to lecture on some of the larger phases of library work.

Miss Tobitt, Librarian of the Omaha (Neb.) Public Library, will lecture on trade bibliography and bookbinding. The Omaha library has its own bindery, hence the actual experience which Miss Tobitt brings to the subject of binding makes these lectures of practical value.

Prominent librarians will be heard during the course on themes of especial interest. Several lectures of a general character on library subjects will be given by members of the faculty of the school of library training, to which all members of the summer session will be admitted.

The library of the university, comprising about 60,000 volumes, and the public library of Iowa City, comprising about 4,000 volumes, will be at the service of the student, affording ample practice work.

ENTRANCE REQUIREMENTS

The course is intended especially for Iowa librarians who are in charge of small libraries. Those who have had some experience in library work or wish to prepare for definite positions will be given preference. Inasmuch as emphasis is laid on practice work and prompt technical revision and correction, the number admitted to the class must be limited.

Students will be admitted from other states if they meet the admission requirements and if the limit of students is not reached by Iowa applicants. Entrance examinations are not required, but candidates are supposed to have completed a high school course or its equivalent.

As the course in library work for children deals with a subject of such general interest, students will be admitted for this course whether engaged in library work or not, and those from other states will be welcomed.

Applications should be made on the blank form to be obtained of the director, Miss Alice S. Tyler, Iowa Library Commission, Des Moines, and should be sent in not later than May 15, 1904.

BOOKS

The following books will be used in the summer school. Those marked with an asterisk are published by the U. S. Bureau of Education, Washington, D. C., and will be sent to any address without charge and should be obtained of the Bureau at once. Others will be on sale at the school.

Dewey.	Simplified library school rules	$1.25
	Decimal classification (or)	5.00
	Abridged edition (may be used if student owns it)	1.50
*	Papers prepared for World's Library Congress, 1893	Free
*Cutter.	Rules for a dictionary catalogue	Free
	Decimal author table (two-figure)	1.25
American	Library Association. List of subject headings	2.00
Dana.	Library primer	1.00
*Catalogue	of A. L. A. Library	Free
Kroeger.	Guide to the study of reference books, Houghton	1.25

Supplies for practice work may be obtained at the school, the cost of which, aside from the books, will probably not exceed $5.00.

EXPENSES

The tuition fee in the library school is $10.00 for the regular first year's course, including the course in library work with children. For this latter course alone the fee will be $5.00.

To those returning for the second year's course in cataloging the tuition fee will be $5.00 and these students are advised to take one additional course in the university summer session.

The additional cost of library material necessary for practice work and the necessary text books will not exceed $10.00.

There are no dormitories and no commons connected with the university. Clubs may be formed, in which the cost of day board is from $2.00 to $2.50 a week. Room rent varies from 50 cents to $1.50 per week for each student. Boarding and lodging in private houses can be obtained for from $3.00 to $5.00.

Lists of desirable places will be furnished each student upon application to the director of the school.

REGISTRATION

Students on coming to the university should present themselves at the office of the director of the summer session, hall of liberal arts, for registration and assignment to classes.

Students are requested to register before 12 o'clock on Monday, June 18, as the class work will begin at two o'clock on that day.

Address all communications regarding the instruction to Miss Alice S. Tyler, Secretary Iowa Library Commission, Des Moines, Iowa.

THE COLLEGE OF LAW

COLLEGE OF LAW

THE FACULTY

GEORGE E. MACLEAN, PH. D., LL. D.,
President.

CHARLES NOBLE GREGORY, M. A., LL. D.,
Dean.

SAMUEL HAYES, M. S., LL. B.,
Resident Professor of Law.

ELMER ALMY WILCOX, B. A.,
Resident Professor of Law and Secretary of the Faculty.

LAWRENCE MARSHALL BYERS, M. A., LL. B.,
Resident Professor of Law in Charge of the Practice Court.

BARRY GILBERT, B. A., LL. B.,
Resident Professor of Law.

*EMLIN MCCLAIN, M. A., LL. D., Justice Supreme Court of Iowa,
Lecturer on Law.

*HORACE EMERSON DEEMER, LL. B., Chief Justice Supreme Court of Iowa,
Lecturer on Law.

SIR FREDERICK POLLOCK, BART, K. C., LL. D.,
Late Corpus Professor of Jurisprudence in the University of Oxford, delivered a brief course of lectures in the College of Law in October, 1903.

SMITH MCPHERSON, LL. B., U. S. District Judge Southern District of Iowa,
Lecturer on Law.

MERTON LEROY FERSON, B. PH., LL. B.
Librarian.

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*Resigned Jan. 1, 1904

COLLEGE OF LAW

LENGTH OF COURSE

The college of law was organized as a department of the university in 1868, the course of study covering one year. In 1884 the General Assembly passed an act requiring two years' study for all candidates for admission to the bar, and the course of study in this department was extended to the same period. By act of the Twenty-eighth General Assembly (see Acts of the Twenty-eighth General Assembly, Chapter 11, Supplement to Code, § 310) the period of study for admission to the bar was extended to three years, and a preliminary education substantially equivalent to a three years' high school course was required. With the view of conforming the course of study in the college of law to this legislation and qualifying the graduates of the college for admission to the bar, the board of regents at its meeting in March, 1900, authorized the extension of the course from two to three years. The extension was made and the class of 1901 was the last class to graduate in the two years' course. The course is now one of three years.

INSTRUCTIONAL STAFF

At present the instruction is in the hands of a dean and four resident professors who devote their entire time to the school, and lecturers who give extended courses.

REQUIREMENTS FOR ADMISSION

Graduates or matriculates of reputable universities or colleges, or graduates of state normal schools, may be admitted to the first-year class without examination upon presentation of diplomas or certificates showing such graduation or matriculation,

Graduates in the four-year courses of accredited high schools or academies may be admitted to the first-year class without examinations upon presentation of diplomas or proper certificates of graduation.

Graduates of other high schools or academies whose courses of study are approved by the university and are at least three years in length, may be admitted to the first-year class without

further examination upon presentation of certificates signed by the superintendent or principal and containing specific statements as to the amount of work done in each study. Blank certificates will be furnished upon application to the president of the university, the dean of the college of law, or the university examiner.

Applicants presenting certificates for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

All other applicants for admission will be required to pass entrance examinations in the subjects named in the programme given below, and prescribed by the supreme court of Iowa for the preliminary examination of applicants for admission to the bar.

PROGRAMME OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 19 to Wednesday, September 21, 1904

Arithmetic,	1 credit,*	Monday,	1:30 P. M.
English and English Grammar,	2 credits,	Tuesday,	4:30 P. M.
Reading,		Wednesday,	11:00 A. M.
Geography,	1 credit,	Tuesday,	9:30 A. M.
English History,	1 credit,	Tuesday,	11:00 A. M.
United States History,	1 credit,	Tuesday,	1:30 P. M.
Civil Government,	1 credit,	Tuesday,	2:30 P. M.
Economics,	1 credit,	Tuesday,	3:30 P. M.
Algebra,	3 credits,	Wednesday,	8:00 A. M.
The Elementary Principles of the Government			
Land Survey,	1 credit,	Wednesday,	9:00 A. M.
Physics,	2 credits,	Wednesday,	1:30 P. M.

Orthography and writing will be judged from the manuscripts presented.

SECOND SEMESTER

Thursday, February 9, to Saturday, February 11, 1905.

The examinations will be held at the same hours as in the

*One preparatory credit is defined as the equivalent of *one* high school study *five* times a week during a semister at least *eighteen weeks* in length on the basis of *four* studies a day.

programme above, reading Thursday, Friday, and Saturday for Monday, Tuesday and Wednesday, respectively.

For *each separate* examination given at any other time than that announced in the programme which precedes, a fee of *one dollar* will be charged by the university. For *a series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

Applicants may offer themselves for examination in subjects which are real equivalents of any mentioned in the foregoing programme.

Any person expecting to enter the college of law is advised to learn before the opening of the semester exactly what entrance examinations he will be required to pass. He can learn this by addressing the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programme given above.* He should present himself at once at the office of the university examiner, who will give all necessary directions.

Any student displaying marked illiteracy in English may at any time by the rule of the college of law be required by the faculty to take instruction in English.

Students will find it to their advantage to enter at the beginning of a semester and best to enter at the beginning of the university year.

ADVANCED STANDING

SECOND YEAR

Applicants for admission to second year standing must comply with the conditions hereinbefore set out for candidates for the first year class, and in addition thereto furnish certificates from approved law schools of work completed in or must pass successful examinations in five of the principal subjects of the first year, or their equivalents, namely, contracts, torts, evidence, agency, real property, domestic relations, and criminal law and procedure; they must also furnish either a certificate showing one year's study of law in a reputable law school, or the affidavit of a member of the bar in regular practice, stating that the applicant has pursued a regular course of study of the law in his office for twelve months. Applicants who have already been admitted to the bar in states where an examination is required,

may enter upon presentation of certificate showing admission to practice.

A form of affidavit of study in a law office which may be used is here inserted:

Form Approved by Attorney General, June 25, 1902.

STATE OF..... }
.....COUNTY. } *SS:*

....., being first duly sworn, deposes and says that he is a member of the bar of the State of....., in regular practice, and has been such for more than.....years last past. That....., the applicant for admission to the bar, actually and in good faith pursued a regular course of the study of the law in the office of deponent for the period of....., beginning on the.....day of....., 190.., and continuing until the.....day of....., 190...

And deponent further says that the said..... was diligent and attentive in the pursuit of his studies, and that he actually and in good faith devoted the entire time herenbefore mentioned to the study of the law.

.....

Subscribed in my presence and sworn to before me this.....day of....., 190...

.....

THIRD YEAR

Applicants for admission to third year standing must comply with all the conditions hereinbefore set out for candidates for admission to the first year class, and in addition thereto furnish certificates from approved law schools of work completed in or must pass satisfactory examinations in five of the principal subjects of the first year course or their equivalents set out under the provisions governing second year standing; also in six of the principal subjects of the second year course, viz.: Bills and notes, sales, wills, probate law, partnership, corporations, equity, equity pleading, and real property, or the equivalent of

these subjects; they must also present certificates or affidavits showing two years' study of law as above, one of which must have been in a reputable law school and the other either in a reputable law school or in the office of an attorney in active practice.

Students will not be admitted to classes in advance of their time credits.

Examinations for advanced standing will be held on Tuesday, September 20, 1904, at 9:00 a. m., in the old capitol building. They cannot be given at other times.

CREDITS FROM OTHER LAW SCHOOLS

As indicated above, students may be credited for work completed in other law schools which are approved to the extent of two years, if such work and attendance are duly certified, without examination in this college.

SPECIAL STUDENTS

Applicants for admission to the college of law, not candidates for a degree, but desiring to pursue special subjects, will be admitted on complying with the admission requirements governing candidates for degrees, or on showing by a special examination that they are qualified to pursue the subjects desired.

COURSE OF STUDY

The course of study is so arranged that the several classes have separate and distinct courses of study throughout. The elementary courses are grouped in the first year, and the specialized courses in the second and third years, the design being to cover the fundamental subjects of the law and to equip the student for the active practice of the profession.

FIRST YEAR

FIRST SEMESTER

Subject	*Text*	*Instructor*	*Per Week*
Contracts	Keener's Cases on Contracts	Dean Gregory	3 hrs
Torts	Cooley on Torts	Prof. Hayes	3 hrs.
Code Pleadings and Trial and Judgment	Iowa Code	Prof. Byers	2 hrs.
Domestic Relations	Deemer's Outlines	————	2 hrs.

SECOND SEMESTER

Evidence	Jones on Evidence	Prof. Byers	3 hrs.
Agency	Wambaugh's Cases on Agency	Prof. Gilbert	2 hrs.
Criminal Law and Procedure	McClain's Outlines of Criminal Law and Proced., or Clark's Crim. Law and Beale's Crim. Procedure	Prof. Wilcox	3 hrs.
Real Property	Tiffany on Modern Real Property	Prof. Hayes	2 hrs.

SECOND YEAR

FIRST SEMESTER

Sales	Williston's Cases on Sales	Dean Gregory 2 hrs
Trial Procedure	Deemer's Outlines	1 hr.
Bills and Notes	Huffcut's Cases on Negotiable Instruments	Prof. Wilcox 2 hrs
Equity & Equity Pleading	Hutchins & Bunker's Cases in Equity Jurisprudence Selected Cases	Prof. Gilbert 3 hrs.
Probate Law	Code & Selected Cases	Prof. Gilbert 2 hrs.

SECOND SEMESTER

Wills	Chaplin on Wills, Principles with Selected Cases	Dean Gregory 2 hrs
Corporations	Elliott on Private Corporations (3d Ed.) Lectures on Public Corporations	Prof. Wilcox 3 hrs.
Partnership	Burdick's Cases on Partnership	Prof. Gilbert 2 hrs.
Real Property	Tiffany on Modern Real Property	Prof. Hayes 3 hrs

THIRD YEAR

FIRST SEMESTER

International Law	Scott's Cases	Dean Gregory 3 hrs
Conflict of Laws	Minor's Conflict of Laws	Prof. Hayes 2 hrs
Insurance	Woodruff's Cases on Insurance	Prof. Wilcox 2 hrs.
Constitutional Law	McClain's Cases on Constitutional Law	———— 3 hrs.

SECOND SEMESTER

Carriers	McClain's Cases	Dean Gregory 3 hrs
Attachment and Garnishment Common Law Pleading Justice Practice	Code of Iowa Perry's Common Law Pleading	Prof. Hayes 2 hrs
Quasi Contracts	Keener on Quasi Contracts	Prof. Wilcox 2 hrs
Trusts Damages	Selected Cases on Trusts Beale's Cases on Damages	Prof. Gilbert 3 hrs

PRACTICE COURT

For the purpose of affording the student practice in the application of legal principles to statements of fact, practice courts are conducted for a portion of each year in the first and second year classes and in the first semester of the third year and each student is required to conduct or defend causes in these courts. The courts are presided over by a member of the faculty. The method and rules of procedure follow those of the trial courts, and the student is given an opportunity to draft pleadings and argue cases under these rules. This feature of instruction is an important one in the college. Students are encouraged to form club courts, and the faculty will aid such clubs in every possible way.

COMBINED LIBERAL ARTS AND LAW COURSE

For a description of the combined course, see page 99 above.

EQUIPMENT

The college of law has the exclusive occupancy of the second floor and one half of the main floor in the Old Capitol building.

LAW LIBRARY

The library is in charge of a regular librarian, graduate in the law and liberal arts and a member of the bar, with three assistants, who render valuable aid to the students in the prosecution of their work.

See "Libraries" pages 29-31 above.

THESES

Each candidate for graduation must present to the faculty, on or before the first Monday in April, a thesis upon some legal topic approved by the faculty. Such thesis must be legibly written or printed by typewriter, on paper 8x10½ inches in size, leaving a blank margin of at least one inch at side and at top and bottom. The thesis shall not be less than 1,500 nor more than 2,500 words in length, exclusive of citations of authorities. In citing cases the names of the parties as well as the volume and page of the report must be given. Each thesis must have on the first page thereof the subject of the thesis and the name of the writer.

The character of the thesis will be taken into account in determining whether the candidate is qualified to be recommended for a degree. All theses become the property of the college.

GRADUATION

Three years' study is essential to graduation, at least the last year of which must have been spent in this college. Before being recommended for graduation the candidate must satisfy the faculty of his proficiency in all the prescribed studies of the course by passing examinations therein, or by certificates as above provided, if the candidate has pursued a portion of his studies in some other law school. Candidates must be of good moral character. Upon being recommended by the faculty,

candidates may pass a final examination conducted at Iowa City by a commission appointed by the Supreme Court of Iowa in accordance with the statutes and rules of the Supreme Court regulating admission to the bar (see Acts Twenty-eighth General Assembly, Chapter 11, Supplement to the Code §310), but the same is not required as a preliminary to the collegiate degree. Upon complying with the requirements above set out the candidates receive the degree of Bachelor of Laws. To students who pass the examination of the bar examiners, oaths of admission to the bar are administered in connection with their graduation, and they receive the usual diplomas and certificates of admission. Such candidates are also admitted to practice in the federal courts on graduation, the oath being administered at that time. Those who are not twenty-one years of age may pass the examination and receive their diplomas, but cannot be admitted to practice until attaining that age.

Special students or those leaving the school in good standing prior to graduation are entitled to certificates showing the number of semesters spent in attendance at this college and the grades attained in the examinations passed.

FORENSIC SOCIETIES

Two forensic societies, The Hammond Law Senate, and The Forum, composed exclusively of students of this college, hold regular weekly meetings, furnishing to their members valuable training in debating and in the other exercises usually provided for by such organizations.

TUITION—FEES

See pages 57 and 58 above.

COLLEGE OF MEDICINE

COLLEGE OF MEDICINE

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., Ph. D., LL. D.,
President of the University.

PHILO JUDSON FARNSWORTH, B. A., M. A., M. D.
Emeritus Professor of Materia Medica and Therapeutics.

JOHN CLINTON SHRADER, M. A., M. D., LL. D.,
Emeritus Professor of Obstetrics, Gynecology, Clinical Gynecology and Diseases of Children.

JAMES RENWICK GUTHRIE, B. S., M. A., M. D.,
Dean of the College of Medicine, and Professor of Obstetrics and Gynecology,

ELBERT WILLIAM ROCKWOOD, B. S., M. A., M. D.,
Professor of Chemistry and Toxicology.

JAMES WILLIAM DALBEY, B. S., M. D.,
Professor of Ophthalmology.

CHARLES SUMNER CHASE, B. A., B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

WALTER LAWRENCE BIERRING, M. D.,
Professor of Theory and Practice and Clinical Medicine.

*JOHN WALTER HARRIMAN, M. D.,
Professor of Anatomy.

WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology and Assistant Professor of Gynecology.

LEE WALLACE DEAN, B. S., M. S., M. D.,
Professor of Otology, and Rhino-Laryngology, and Assistant in the Department of Ophthalmology.

EMIL LOUIS BOERNER, PH. G., Phar. D.,
Emeritus Professor of Pharmacy.

WM. JEPSON, M. D., L. R. C. P. and S.,
Professor of Surgery and Clinical Surgery.

JOHN THOMAS MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

*Died, January 25, 1904.

HENRY ALBERT, B. S., M. S., M. D.,
Professor of Pathology and Bacteriology.

WILLIAM EDWARD BARLOW, B. A., M. A., Ph. D.,
Assistant Professor of Chemistry.

ALBERTUS JOSEPH BURGE, M. D.,
Assistant Professor of Clinical Medicine.

FREDERIC BONNET, JR., B. S., M. S., Ph. D.,
Assistant Professor of Chemistry.

GERSHOM HYDE HILL, B. A., M. A., M. D.,
Lecturer on Insanity.

FRANK THOMAS BREENE, D. D. S., M. D.,
Lecturer on Dentistry.

JAMES FREDERICK CLARKE, B. A., M. A., M. D.,
Lecturer on Hygiene.

JOHN BLAIR KESSLER, M. D.,
Lecturer on Dermatology.

GEORGE EDWARD DECKER, B. S., M. D.,
Lecturer on Paediatrics.

JENNINGS PRICE CRAWFORD, M. D.,
Lecturer on Surgical Technique.

MILTON REMLEY, B. A., M. A.,
Lecturer on Medical Jurisprudence.

WILBER JOHN TEETERS, B. S., M. S., Ph. C.,
Director of the Pharmaceutical Laboratory.

CHARLES IRWIN LAMBERT, M. Di., M. S., M. D.,
Instructor in Pathology and Bacteriology.

FRED W. BAILEY, B. S.,
Assistant Instructor in Physiology.

ALDEN ROBBINS HOOVER, B. S.,
Assistant Instructor in Histology.

JOHN PATRICK MULLIN, M. D.,
Demonstrator of Anatomy.

PAUL SCHUTZ KRAUSE, B. S.
Fellow in Pathology and Bacteriology.

JAMES GARDNER GOODWIN, B. S.,
Fellow in Chemistry.

RALPH LEONIDAS BYRNES, B. S.,
Scholar in Pathology.

ADELBERT W. STARBUCK, D. D. S.,
Assistant in Histology.

JOHN G. MUELLER, M. D.,
Clinical Assistant to the chair of Gynecology.

EDWARD ELLSWORTH BLYTHE, B. Ph.,
Undergraduate Assistant in Histology.

CHARLES HENRY SWIFT,
Undergraduate Assistant in Internal Medicine.

ZADA M. COOPER, Ph. G.,
Assistant in Pharmacy Laboratory.

HERBERT PEASE,
Undergraduate Assistant in Histology.

FREDERICK WARNER BOOTS,
Undergraduate Assistant in Histology.

RUDOLPH ERNST KLEINSORGE,
Undergraduate Assistant in Physiology.

FRED ALBERT, JR., B. Ph.,
Laboratory Assistant in Pathology.

HENRY J. JONES,
Senior Assistant Demonstrator in Anatomy.

WALTER H. FOX,
Junior Assistant Demonstrator in Anatomy.

OSCAR HAWKINSON,
Prosector in Anatomy.

ARTHUR DANIEL WOODS,
Prosector in Anatomy,

WILLIAM CURTIS WOLVERTON,
Tutor in Medical Latin.

ANTONIA EPENETER, Graduate Nurse,
Principal of Nurses Training School.

ADELAIDE LOUIS,
Matron of the Hospital.

COLLEGE OF MEDICINE

A thorough elementary preparation is required before entering on the course of medical lectures. The university offers a scientific course preparatory to the professional, and it is expected that many will avail themselves of this opportunity. In the branches of medicine there should be a thorough training in principles before the practical portion is begun. For this purpose a careful presentation of the subjects is made by lectures, and the knowledge fixed by recitations and frequent reviews. Ample means of illustration are used, and the materials for demonstration are abundant. In the practical branches abundant clinical material is furnished to illustrate the subjects taught.

Medical, surgical, gynecological, ophthalmological, dermatological, otological, and rhino-laryngological clinics are held each week during the term. Attendance upon these is required of all students, excepting those engaged in laboratory work during clinic hours.

The course of study extends through four years of thirty-six weeks each. The session is divided into two semesters of eighteen weeks, and the semester into two terms of nine weeks each.

BUILDINGS

With the present year the two new medical buildings that have been in course of construction during the past two years will be ready for occupancy. Both buildings are situated in the new medical court, and are of very attractive architecture, and strictly fire-proof in construction.

The hall of anatomy is 60 by 60 feet, and contains a large amphitheatre, recitation room, a laboratory for practical anatomy, an anatomical museum, a smaller room for special research, and private rooms for the professor of anatomy, demonstrators, and assistants.

The hall of histology, physiology, and pathology is 55 by 150 feet in dimensions; the first floor being occupied by the de-

partment of physiology, the second by that of histology and embryology, and the third story includes the laboratories of pathology and bacteriology, the pathological museum, and the clinical laboratory.

In this building are also two large amphitheatres, two recitation rooms, laboratories for special research, faculty room, library, and ladies' and gentlemens' waiting rooms.

These buildings are completely equipped with all modern appliances, permitting the most advanced work to be carried on in the several departments represented.

THE PATHOLOGICAL MUSEUM

The museum contains a very valuable and varied collection of preparations, preserved in natural colors and adapted for illustration of the different pathological conditions. The specimens are secured principally from the university clinics and autopsies, by personal visits to the pathological institutes of the large European centers, and as contributions from professional friends. Physicians are earnestly requested to send to the curator of the museum, Professor Henry Albert, any specimens of pathological anatomy. For all such favors credit will be given by labeling the preparations with the name of the donor before placing them in the museum. Acknowledgement will also be made in the annual announcement.

The following interesting contributions have been received from professional friends during the past year:

Melano-sarcoma—Dr. R. E. Everhart, Clinton, Iowa.

Lipoma—Dr. R. E. Everhart, Clinton, Iowa.

Uterus diforis supra simplex with simple vagina—Drs. Matthey and Crawford, Davenport, Iowa.

Carcinoma of hepatic flexure of colon—Dr. Henry Matthey, Davenport, Iowa.

Hematoma of ovary—Dr. J. P. Crawford, Davenport, Iowa.

Fibrous mole—Dr. J. P. Crawford, Davenport, Iowa.

Hypertrophy of bladder (enormous)— Dr. J. P. Crawford, Davenport, Iowa.

Cystoma of vulva—Dr. J. P. Crawford, Davenport, Iowa.

Carcinoma mammae (two specimens)—Dr. J. P. Crawford, Davenport, Iowa.

Fibro-adenoma mammae (two specimens)—Dr. J. P. Crawford, Davenport, Iowa.

Ulcer of duodenum—Dr. J. P. Crawford, Davenport, Iowa.

Glio-sarcoma of brain—Dr. J. P. Crawford and Dr. J. D. Cantwell, Davenport, Iowa.

Foetus (four and one-half months old) complete with membranes—Dr. Geo. M. Middleton, Davenport, Iowa.

Abscess of brain—Mercy Hospital, Davenport, Iowa.

Lipoma (very large) from omentum—Mercy Hospital, Davenport, Iowa.

Actinomycosis—(from inferior maxilla)—Dr. E. H. Dwelle, Northwood, Iowa.

Anomalous young pig (Dipygus)—Dr. James Cropley, Iowa City, Iowa.

Fibro-myoma of uterus—Dr. F. H. Little, Muscatine, Iowa.

Cystoma of ovary—Dr. F. H. Little, Muscatine, Iowa.

Anomalous lamb (duplicity of heart and kidneys)—Dr. J. M. Gahringer, Olds, Iowa, and Dr. C. L. Smith, Iowa City, Iowa.

Epithelioma of hand—Dr. Gardiner, Lisbon, Iowa.

Anomalous young chick—Mr. J. S. Collins, Geneseo, Ill.

Gangrene of finger (senile)— Dr. J. M. Gahringer, Olds, Iowa, and Mr. C. L. Smith, Iowa City, Iowa.

Fatty degeneration of liver—Dr. W. L. Allen, Davenport, Iowa.

Hair ball from stomach (bovine)—Mr. C. H. Houser, Center Point, Iowa.

Brain (supperative meningitis)—Dr. J. G. Mueller, Iowa City, Iowa.

Tuberculosis of peritoneum (involving all abdominal organs)—Dr. J. G. Mueller, Iowa City, Iowa.

Brain (tubercular meningitis)—Dr. J. G. Mueller, Iowa City, Iowa.

Carbolic acid corrosion of stomach,—Dr. J. G. Mueller, Iowa City, Iowa.

Pneumonia (gray hepitization)—Dr. J. G. Mueller, Iowa City, Iowa.

Gall stones—Dr. J. G. Mueller, Iowa City, Iowa.

Cystic kidneys,—Dr. J. G. Mueller, Iowa City, Iowa.

Heart—hypertrophy following aortic stenosis—Dr. J. G. Mueller, Iowa City, Iowa.

Spleen—numerous phleboliths—Dr. J. G. Mueller, Iowa City, Iowa.

Hypertrophy of prostate—Dr. J. G. Mueller, Iowa City, Iowa.

Extra-uterine (tubal) pregnancy { Dr. Henry Matthey, Davenport, Iowa. / Dr. Boes & Dr. Whitaker, Davenport, Iowa.

Chondro-sacroma of tibia—Dr. Wm. Jepson, Sioux City, Iowa.

Aneurysm of popliteal artery—Dr. Wm. Jepson, Sioux City, Iowa.

Scirrhus carcinoma of mammary gland (three specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Lipomata (five specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Gall-stones from eleven cases—Dr. Wm. Jepson, Sioux City, Iowa.

Multiple fibro-myoma of the uteres (four specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Cystic myoma of uterus—Dr. Wm. Jepson, Sioux City, Iowa.

Pyosalphinx—Dr. Wm. Jepson, Sioux City, Iowa.

Tuberculosis of testicle (two specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Epithelioma of ear—Dr. Wm. Jepson, Sioux City, Iowa.

Tuberculosis of uterus and peritoneum— Dr. Wm. Jepson, Sioux City, Iowa.

Dermoid cyst of ovary—Dr. Wm. Jepson, Sioux City, Iowa.

Dermoid cyst from coccygeal region—Dr. Wm. Jepson, Sioux City, Iowa.

Hypertrophy of prostate—Dr. Wm. Jepson, Sioux City, Iowa.

Epithelioma of lip—Dr. Wm. Jepson, Sioux City, Iowa.

Sebaceous cyst—Dr. Wm. Jepson, Sioux City, Iowa.

Cystoma of mammary gland (two specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Cystoma of ovary—Dr. Wm. Jepson, Sioux City, Iowa.

Teleangiectatic angioma (bottom of foot)—Dr. Wm. Jepson, Sioux City, Iowa.

Femur (necrotic)—Dr. Wm. Jepson, Sioux City, Iowa.

Foot with tuberculosis of joints—Dr. Wm. Jepson, Sioux City, Iowa.

Carcinoma of rectum—Dr. Wm. Jepson, Sioux City, Iowa.

Hypertrophy of prostate (two specimens)—Dr. Wm. Jepson, Sioux City, Iowa.

Fibroma (from rectus abdominis muscle)—Dr. Wm. Jepson, Sioux City, Iowa.

Sarcoma of kidney—Dr. Wm. Jepson, Sioux City, Iowa.
Fibro-adenoma mammae—Dr. W. W. Knepper, Collins, Iowa.
Corpus luteum—Mr. Herbert Pease, Collins, Iowa.
Eye (exudative cyclitis)—Dr. E. S. Bowman, Davenport, Iowa.
Anomalous duckling—Mr. J. C. Teufel, Moscow, Iowa.
Carcinoma ventriculi (colloid)—Drs. A. E. Doty, Oxford, Iowa, and J. B. Kessler, Iowa City, Iowa.
Fibroma with numerous calcareous areas (bovine)—Dr. F. H. P. Edwards, V. S., Iowa City, Iowa.
Hypertrophic uterus—Dr. F. Lambach, Davenport, Iowa.
Embroyo (six weeks) complete with membranes—Dr. F. Lambach, Davenport, Iowa.
Ascaris lumbricoides in appendix—Dr. F. Lambach, Davenport, Iowa.
Carcinoma of liver—Dr. L. W. Littig and Dr. J. P. Mullin, Iowa City, Iowa.
Aneurysm of descending aorta—Drs. J. P. Mullin and D. F. Fitzpatrick, Iowa City, Iowa.
Tuberculosis testicle (two specimens)—Dr. D. F. Fitzpatrick, Iowa City, Iowa.
Carcinoma mammae—Dr. Fitzpatrick, Iowa City, Iowa.
Heart (hypertrophy following aortic stenosis) — Dr. C. M. Hobby, Iowa City, Iowa.
Hemorrhagic infarcts of lung—Dr. C. M. Hobby, Iowa City, Iowa.
Marked passive congestion of kidneys with petechial hemorrhages—Dr. C. M. Hobby, Iowa City, Iowa.
Multiple fibro-myoma of uterus—Dr. G. O. Morgridge, Muscatine, Iowa.
Anencephalia—Dr. M. Lyons, Dewitt, Iowa.
Colloid carcimoma—Drs. Thielen and McDowell, Grundy Center, Iowa.
Multiple Fibro-myoma of uterus—Dr. J. R. Guthrie, Dubuque, Iowa.
Adenoma of kidney—Dr. J. R. Guthrie, Dubuque, Iowa.
Carcinoma of mammary gland (two specimens)—Dr. J. R. Guthrie, Dubuque, Iowa.
Simple cystoma of ovary (two specimens)—Dr. J. R. Guthrie, Dubuque, Iowa.
Multilocular cystoma of ovary—Dr. J. R. Guthrie, Dubuque, Iowa.

Papillomatous cystoma of the ovary — Dr. J. R. Guthrie, Dubuque, Iowa.

Carcinoma of omentum (secondary) — Dr. J. R. Guthrie, Dubuque, Iowa.

Carcinoma uteri - Dr. J. R. Guthrie, Dubuque, Iowa.

Granular gastritis - Dr. A. S. Hamilton, Independence, Iowa.

Tubercular enteritis—Dr. J. C. Ohlmacher, Independence, Iowa.

Hypernephroma—Dr. Snitkay, Belle Plaine, Iowa.

Heart (hypertrophy following warty endocarditis of mitral valve)—Dr. E. S. Bowman, Davenport, Iowa.

Sequestra (osteomyelitic) - Dr. J. W. Harriman, Iowa City, Iowa.

Three appendices (one with catarrhal inflammation and two gangrenous)—Dr. J. W. Harriman, Iowa City, Iowa.

Amputation "neuroma"—Dr. J. W. Harriman, Iowa City, Iowa.

Hydrocephalous (Foetus)—Dr. Grant, Riverside, Iowa.

Anencephalia—Dr. Grant, Riverside, Iowa.

Double intussusception - Dr. A. M. Clark, McGregor, Iowa.

Appendix (Perforating appendicitis)—Dr. A. M. Clark, McGregor, Iowa.

Foetus (mummified)—Dr. A. M. Clark, McGregor, Iowa.

Notencephalus (Meningo-encephalocele)—Dr. A. M. Clark, McGregor, Iowa.

A large collection of specimens especially valuable for pathological histology collected at the Independence State Hospital—Dr. A. S. Hamilton, Independence, Iowa, Dr. J. C. Ohlmacher, Independence, Iowa, and Mr. F. C. Carle, Urbana, Iowa.

REQUIREMENTS FOR ADMISSION

1. Each applicant for admission must present to the secretary of the faculty a satisfactory certificate of good moral character, signed by two physicians of good standing in the state from which he comes.

2. The following classes of applicants may be admitted without examination:

a. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges, together with a special certificate that they have studied Latin at least one year.

b. Graduates of normal schools established by state authority who present diplomas or certificates of graduation, together with a special certificate that they have studied Latin at least one year.

c. Graduates of accredited or other approved secondary schools who present *thirty* (30) preparatory credits, including at least one year of Latin. *One preparatory credit is defined as the equivalent of one high school study five days a week during a semester at least eighteen weeks in length, on the basis of four studies a day.* These preparatory credits must be properly certified by the superintendent or the principal of the school from which the applicant comes, and sent to the university examiner as *early in the summer as possible.* A blank can be obtained by addressing the president of the university, or the university examiner.

3. Applicants who present *twenty-eight* (*28*) preparatory credits properly certified (as indicated under 2 c) may be admitted without examination, *on condition that they complete their preparation within one year from the date of their admission.* No applicant whose deficiencies exceed *two* (*2*) preparatory credits will be admitted as a candidate for graduation.

4. In September, 1904, applicants who do not present credentials as described above will be admitted without conditions *only upon passing examinations* in the following preparatory subjects.

a.	Latin (one year)	2 credits
b.	English and Literature	4 credits
c.	History (one year)	2 credits
d.	Civil government	1 credit
e.	Arithmetic	1 credit
f.	Algebra, through quadratics	3 credits
g.	Plane geometry	2 credits
h.	Physics (one year)	2 credits
i.	Botany, or some other science	1 credit

5. The applicant who passes examinations in all of the subjects enumerated under 4, except such as stand for a total of *two* (*2*) preparatory credits, may be admitted *on the condition stated in paragraph 3.*

6. Applicants who present proper *certificates* covering all or any part of the preparatory studies designated under 4 for examination, may be admitted upon passing examinations in enough *other* preparatory studies to bring the number of their preparatory credits up to at least *twenty-eight* (*28*), *on the condition stated in paragraph 3.*

7. All applicants who are admitted without Latin will be required to take the one-year course in medical Latin specially provided by the university, the fee being $5.00 for the course. This course is not a part of the regular course in medicine, but is offered as a convenience for such applicants for admission as have not studied Latin. The class in this course will be organized on Monday, October 3, 1904. Students who take this course are required to pay the fee at the time when they pay the first installment of their regular tuition fee.

8. Students who enter with conditions in *other* preparatory studies than Latin must pass the regular entrance examinations in these studies either in February or in September, 1905.

9. Students entering from other colleges of medicine with advanced standing must present credentials for preparatory work or be examined as stated above.

10. It is urged that any one expecting to enter the college of medicine next September send all certificates of preparatory

work to the university examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean, or to the secretary of the faculty, for signature.

ENTRANCE EXAMINATIONS

Any person expecting to enter the college of medicine next September, should be careful to learn before the opening of the university exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the university, the secretary of the faculty of the college of medicine, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the university. For *a series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

MONDAY, SEPTEMBER 19, TO WEDNESDAY, SEPTEMBER 21, 1904

Arithemetic,	1 credit,	Monday,	1:30 P. M.
Latin,	2 credits,	Monday,	3:30 P. M.
English and English grammar,	2 credits,	Tuesday,	4:30 P. M.
Literature,	2 credits,	Tuesday,	8:00 A. M.
*General history,	2 credits,	Tuesday,	9:30 A. M.
*English history,	1 credit,	Tuesday,	11:00 A. M.
*United States history,	1 credit,	Tuesday,	1:30 P. M.

*The applicant may elect either *general history*, 2 credits, or *English history* and *United States history*, one credit each.

Civil government,	1 credit,	Tuesday,*	2:30 P. M.
Algebra,	3 credits,	Wednesday,	8:00 A. M.
Plane Geometry,	2 credits,	Wednesday,	9:30 A. M.
Physics,	2 credits,	Wednesday,	1:30 P. M.
Botany,	1 credit,	Wednesday,	3:00 P. M.

SECOND SEMESTER

THURSDAY, FEBRUARY 9, TO SATURDAY, FEBRUARY 11, 1905

The examinations will be held at the same hours as in the programme above, reading Thursday, Friday and Saturday for Monday, Tuesday and Wednesday, respectively.

All students having deficiencies in their medical work will appear for examination according to the following schedule:

WEDNESDAY, SEPTEMBER 21

Histology,	8:00 A. M.
Physiology,	10:00 A. M.
Pathology,	10:00 A. M.
Anatomy,	11:00 A. M.
Materia Medica,	3:00 P. M.
Chemistry,	4:00 P. M.

COMBINED COURSES

Arrangements have been made with the faculty of the college of liberal arts by which it will be possible for a student to receive credit in one college for work done in the other, thereby obtaining a degree in each in a shorter time than if the two courses were taken independently. These combined courses are especially recommended to all students who intend to enter the profession of medicine.

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSE LEADING TO THE DEGREES B. A. AND M. D., OR B. PH. AND M. D.

1. Some *one* foreign language (Latin* preferred, but Greek, French, or German accepted), †4 credits

*Applicants who do not present at least *one year* of Latin will be required to take the one-year course in Medical Latin at the University.

†Applicants who do not present *eight* semesters of foreign language will be required to take in the university, *with credit, in addition* to the foreign language required in these two combined courses, respectively, the difference between eight semesters of preparatory work and the amount presented.

2.	English and literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics or science),	13 credits
	Total,	30 credits

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSE LEADING TO THE DEGREES B. S. AND M. D.

1.	Some *one* foreign language (Latin* preferred, but German or French accepted),	4 credits
2.	English and literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane Geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics or science),	13 credits
	Total,	30 credits

For a detailed statement of the requirements for admission, see the latest announcement of the college of liberal arts.

COMBINED COURSE LEADING TO THE DEGREES OF B. S. AND M. D.

First Year	*Second Year*
German—5	German—3
Mathematics—4	English—3
Physics—4	Chemistry—4
English or Drawing—2	Zoology—4
	Animal physiology—3

*Applicants who do not present at least *one year* of Latin will be required to take the one-year course in Medical Latin at the University.

Third Year	*Fourth, Fifth and Sixth Years*
Botany—4	
Chemistry—2	Medical work exclusively
Animal morphology (adv.)—4	
Elective in college of liberal arts—5	

Seventh Year

French, 10 semester hours.
Elective, in college of liberal arts, 10 semester hours.

It is possible for students of marked ability to complete this course in six years by taking one year's work in French and one year's work in an elective in the college of liberal arts, in addition to the medical work, in the fifth and sixth years of the combined course or wherever it is practicable. Both degrees will be conferred at the end of the sixth year if the work has been completed, and to obtain them it must be taken as here outlined, no substitutions being permitted.

COMBINED COURSE LEADING TO THE DEGREES OF B. PH. AND M. D., OR B. A. AND M. D.

By selection of the above scientific branches as electives in the courses leading to the degrees of B. Ph. or B. A. in the college of liberal arts it will be possible to obtain either of these degrees with that of M. D. in seven years. For the details of these courses the announcement of that college should be consulted.

COMBINED COURSE LEADING TO THE DEGREES OF M. D. AND D. D. S.

By arrangement with the dental faculty students can obtain the degrees of doctor of medicine and doctor of dental surgery by taking four years in the college of medicine, and after that two years in the college of dentistry. The work is not so arranged that the dental branches can be taken first. The requirements for admission are the same as those of the college of medicine.

ADVANCED STANDING

In all cases those who enter from other schools with advanced standing must comply with the requirements for admission.

Students from other accredited medical colleges who have attended one course of lectures will be admitted to the sophomore class upon passing an examination in the branches taught during the first year.

Those who have attended two courses will be admitted to the junior class upon passing an examination in the branches taught during the first and second years.

Those who have attended three courses will be admitted to the senior class upon passing an examination in the branches taught during the first, second, and third years. At least 34 weeks of study must have been included in each annual course.

Graduates from colleges in good standing, who, during their college course, have devoted regular time to the study of the following branches: biology, botany, chemistry, physics, histology, physiology, and human anatomy, may be admitted to the second year of the medical course.

The number of hours following has been adopted as covering the above requirements:

	DIDACTIC	LABORATORY
General biology with physiology, especially the physiology of circulation, respiration, nerve and muscle, excretion,	180	
Botany, collegiate grade,	72	
Mammalian anatomy with comparative anatomy (human),	60	60
Zoology, not including anatomy,	120	120
Chemistry, non-metallic, metallic, and organic, including stochiometry,	100	200
Physics,	180	
Histology,		
Of cells and tissue,	32	48
Digestive tract, accessory glands, etc.,	22	33

Respiratory tract, skin, and nervous system,	36	72
Also genito-urinary histology,	—	—
Embryology,	60	(including laboratory).

An opportunity will be given at this college for making up the human dissection of the freshman year.

Graduates from literary and scientific colleges having pre-medical courses which have been approved by this faculty will be admitted to the sophomore class upon the presentation of certificates of graduation from such courses. All others should present specific statements of the work completed before graduation with the above as the minimum amount.

Colleges now having such courses or announcing the intention of establishing them are:

Augustana College, Ill.;	Iowa College;
Coe College;	Simpson College;
Des Moines College;	Western College.

Students entering under these conditions at the end of their first session must pass examinations in all branches of the freshman year not previously pursued by them.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF ANATOMY

PROFESSOR HARRIMAN; DR. MULLIN, MR. JONES, MR. FOX.

Anatomy is taught by means of lectures, conferences, recitations, and demonstrations, and by practical work in the laboratories.

Lectures are illustrated by charts, models, blackboard figures, wet and dry specimens, and recent dissections of the human body. A complete assortment of disarticulated human bones is loaned to each student at the beginning of the year. The laboratory of practical anatomy occupies the third floor of he hall of anatomy. Recent legislative enactment provides ample material for dissection.

1. OSTEOLOGY—A course in the anatomy of the human skeleton by means of lectures, recitations, and demonstrations Four hours each week during first semester, freshman year. Professor HARRIMAN.

2. ARTHROLOGY, MYOLOGY, AND ANGIOLOGY—A course in the anatomy of joints, muscles, arteries, veins, and lymphatics, by lectures, recitations, and demonstrations upon the dissected human body. Four hours each week during first term of second semester, freshman year. Professor HARRIMAN.

3. SPLANCHNOLOGY—A course in the anatomy of the viscera and allied structures, by means of lectures, recitations, and demonstrations upon dissected bodies and wet specimens. Four hours each week during second term of second semester, freshman year. Professor HARRIMAN.

4. PRACTICAL ANATOMY—A course in the dissection of the human body. Ten hours each week during first term of second semester, freshman year, 3:30 to 5:30 p. m. daily, except Saturday. Dr. MULLIN, Mr. JONES, Mr. FOX.

5. OSETOLOGY, ARTHROLOGY, MYOLOGY, AND ANGIOLOGY—A course consisting wholly of recitations upon subjects taken up during the freshman year. Four hours each week during first term of first semester, sophomore year. Professor HARRIMAN.

6. PRACTICAL ANATOMY—A course in the dissection of the human body. Ten hours each week during second term of first semester, sophomore year, 3:30 to 5:30 p. m. daily, except Saturday. Dr. MULLIN, MR. JONES, Mr. FOX.

7. SPLANCHNOLOGY—A lecture, demonstration, and recitation course in the anatomy of the viscera of the trunk and genito-urinary organs. Four hours each week during second term of first semester, sophomore year. Professor HARRIMAN.

8. NEUROLOGY AND ORGANS OF SPECIAL SENSE—A didactic, recitation, and conference course in the anatomy of the cerebro-spinal nervous system and organs pertaining to the special senses. Four hours each week during first term of second semester, sophomore year. Professor HARRIMAN.

9. APPLIED ANATOMY—A didactic, recitation, and demonstration course on the anatomy of important regions, with special reference to its application in medical and surgical diagnosis. Three hours each week during second term of second semester, sophomore year. Professor HARRIMAN.

10. SURGICAL ANATOMY—A lecture and recitation course on anatomy as applied to surgery. One hour each week during second semester, junior year. (Elective). Professor HARRIMAN.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR MCCLINTOCK; MR. BAILEY. MR. KLEINSORGE

The department of physiology occupies a suite of rooms which includes a laboratory of experimental physiology and a room for animals. The latter is so arranged that frogs, turtles, rabbits, etc., can be kept throughout the whole year under suitable conditions. The room is supplied with separate compartments so that animals which are being experimented upon can be kept by themselves and observed.

The laboratory is fully equipped with apparatus and chemicals for use in experimental work, and new apparatus is being continually added. The outfit includes myographs, chronographs, various forms of electric batteries, galvanometers,

kymographs, stethometers, sphygmographs, hemoglobinometers, cardiographs, ophthalmoscopes and retinoscopes.

The course in physiology is graded in the first and second years.

In the first year the students hear the lectures and attend recitations. The lectures are abundantly illustrated by charts and by experiments upon the living animal and upon the human subject. These lectures include the subjects of biology and the proximate principles of the human body, the fundamental physiological processes, and a study of the nutritive media, the circulation, respiration, secretion, and excretions, digestion, and absorption.

In the second year the work includes lectures upon nerve and muscle physiology, the electrical phenomena of the body, the physiology of the central nervous system, the physiology of the special senses, of speech, and of reproduction. In addition to the lectures and recitations, the student does practical experimental work in the laboratory. For this the class is divided into sections, and each section works under the immediate supervision of the professor or instructor in physiology. In this course the student is made familiar with the various apparatus and physiological instruments and their uses and is also taught the methods of experimentation. He is supplied with living animals, and upon these studies the physiological activity of the various parts and the organs under normal and abnormal conditions, being required to keep an accurate record of his experiments. In this course the student also studies models of the eye and ear, and performs a number of experiments with the Kuehne artificial eye, observing how it can be converted into a myopic, hyperopic, emmetropic, or astigmatic eye. Each student is supplied with an ophthalmoscope and retinoscope and he learns to use these instruments upon the human eye as well as upon artifical eyes. Each student is required to complete at least fifty different physiological experiments.

In the third year a course of ten lectures upon the application of physiological methods commonly used in the practice of medicine is given. This course is designed to give the student a practical knowledge of physiological instruments and methods commonly used in practice of medicine. An optional laboratory method is given to the students of the third year, in connection with this course.

1. ELEMENTARY PHYSIOLOGY—Lectures, recitations, and demonstrations dealing with the physiology of the animal and plant cell, the fundamental properties of protoplasm, and the proximate principles of the animal body. Three hours a week, first term, first semester, freshman year. Professor MCCLINTOCK.

2. PHYSIOLOGY OF DIGESTION—Lectures, recitations, and demonstrations. This course includes a study of the various digestive juices and their activities; the nervous mechanism governing the digestive organs, the absorption of food-stuffs, and body metabolism. Three hours a week, second term, first semester, freshman year. Professor MCCLINTOCK.

3. PHYSIOLOGY OF SECRETION — Lectures, recitations, and demonstrations dealing with the physiology of secretion. Both the external and the internal secretions are studied. The changes in the secretory cells and the nervous mechanism governing the secretions are investigated. The course includes a discussion of the physiology of the kidney, skin, ductless glands, and other glands in the body. Three hours a week, first term, second semester, freshman year. Professor MCCLINTOCK.

4. SYSTEMIC PHYSIOLOGY — Lectures, recitations, and demonstrations. This course includes the physiology of blood, circulation, respiration, and the lymphatic system. Three hours a week, second term, second semester, freshman year. Professor MCCLINTOCK.

5. PHYSIOLOGY OF MUSCLE AND NERVE—Lectures, recitations, and demonstrations. This course includes a study of the activity of muscle and nerve under normal and abnormal conditions and the electrical disturbances in muscle and nerve. Three hours a week, first term, first semester, sophomore year. Professor MCCLINTOCK.

6. PHYSIOLOGY OF THE NERVOUS SYSTEM — Lectures, recitations, and demonstrations upon the physiology of the brain; spinal cord, the sympathetic and cerebrospinal nerves, Three hours a week, first term, second semester, sophomore year. Professor MCCLINTOCK.

7. PHYSIOLOGY OF THE SENSES—Vision, hearing, taste, smell, cutaneous and muscular sensations. Lectures, recitations, and demonstrations. Three hours a week, fourth term of the sophomore year. Professor MCCLINTOCK.

8. PHYSIOLOGY OF REPRODUCTION—Lectures and recita-

tions, second term, second semester, sophomore year. Professor McCLINTOCK.

9. EXPERIMENTAL PHYSIOLOGY—Laboratory work and demonstrations. This course includes a study of physiological apparatus and its uses. Experiments to demonstrate the functions of the muscular, nervous, respiratory, circulatory, and digestive systems, and on the eye and ear, are performed by the students on frogs, turtles, rabbits, pigeons, dogs, etc.

The class is divided into sections. Fifty-four hours during the sophomore year for each section. Professor McCLINTOCK, Mr. BAILEY, Mr. KLEINSORGE.

10. APPLIED PHYSIOLOGICAL METHODS—Lectures, and recitations. This course includes a study of the ophthalmoscope, retinoscope, sphygmograph, manometer, and their uses in the practice of medicine.

Lecture one hour a week, first term, second semester, junior year. Fifteen hours optional laboratory work is given in connection with the course. Professor McCLINTOCK, Mr. BAILEY.

11. ADVANCED PRACTICAL PHYSIOLOGY—Elective. This course is open to students who have completed courses 1 to 10, inclusive. The student may select any subject in physiology and do advanced work. He will be supplied with animals and apparatus for this work. Nine hours a week, during senior year. Professor McCLINTOCK, Mr. BAILEY.

DEPARTMENT OF CHEMISTRY AND TOXICOLOGY

PROFESSOR ROCKWOOD; ASSISTANT PROFESSOR BARLOW, DR. BONNET, JR., MR. GOODWIN

The lectures in chemistry are delivered in the medical buildings. The work in practical chemistry is conducted in the chemical building of the university in which the college of medicine occupies rooms on the ground floor. These consist of rooms for the instructors, storerooms, and two large laboratories. They are well lighted, and are heated by steam. Ventilating shafts remove offensive and injurious gases. The outfit is ample for demonstrating the general principles of chemistry, as well as its application to medicine. Each student is supplied free of charge with a set of the necessary apparatus, being obliged to pay only for that which is injured or destroyed.

The course in chemistry is designed, first, to give the student a thorough knowledge in fundamental principles, then to

assist him in applying these to the problems which he will meet in the practice of his profession. The lectures are fully illustrated by experiments.

1. CHEMISTRY OF THE NON-METALLIC ELEMENTS—Lectures and recitations. Freshman year, first semester. Three hours each week.

2. CHEMISTRY OF THE METALS AND THEIR COMPOUNDS—Lectures and recitations. Freshman year, second semester, first term. Three hours each week.

3. ORGANIC CHEMISTRY — Lectures and recitations. Freshman year, second semester, second term. Three hours each week.

4. QUALITATIVE ANALYSIS—A laboratory course. It includes, first, the methods of testing for the metallic poisons; then the common medicinal compounds are studied. The student learns the methods of chemical manipulation and the use of apparatus, and also becomes acquainted with the action of reagents of the common chemicals upon each other. The course includes the chemical examination of water from a sanitary standpoint, each student making a number of analyses of various wholesome and polluted waters. Freshman year, first semester, and first term of second semester. Six hours each week.

5. VOLUMETRIC ANALYSIS—A laboratory course. Volumetric methods of quantitative analysis are especially adapted to the needs of the physician because of the rapidity and ease with which they can be executed. The principal ones are taught and the student is given enough practice to familiarize him with them. Freshman year, second semester, second term. Six hours each week.

6. PHYSIOLOGICAL CHEMISTRY—Lectures and recitations. The lectures are in explanation and amplification of the laboratory work. They include the study of the proximate principles of the body and their chemical changes, also foods and digestion, blood, milk, urine, fermentation, and bacterial products. Sophomore year, first semester, and first term of second semester, two hours each week, and second term, one hour each week.

7. GENERAL PHYSIOLOGICAL CHEMISTRY—A laboratory course. The proximate principles of the body and food materials are prepared by the student and their properties and chemical changes are studied. Experiments in artificial diges-

tion are made, their products being isolated and examined. The constituents of the blood are tested chemically and spectroscopically. Sophomore year, first semester. Two hours each week.

8. APPLIED PHYSIOLOGICAL CHEMISTRY—A laboratory course. The modern methods of physiological chemistry are here used in solving problems which arise in the practice of medicine. These include such as the analysis of the gastric juice, quantitative tests being made where they are valuable for diagnostic purposes; the qualitative tests for the abnormal constituents of the urine, with the quantitative determination of such as are of importance; the identification of urinary sediments, of calculi, and of blood stains. Each student makes a complete examination of a large number of each of these, handing in written reports for correction and suggestions. Sophomore year, second semester. Two hours each week.

9. TOXICOLOGY—Lectures and recitations. The physiological and chemical action of the principal poisons is considered as well as their antidotes. The methods of identifying poisons in food, excreta, etc., are explained and illustrated by experiments. Junior and senior years, first semester, and first term of second semester. One hour each week.

10. CHEMISTRY AS APPLIED TO SANITARY SCIENCE—An optional laboratory course. Included in this are the methods suitable for the physician in testing water, air, milk, and other food materials as to their purity, together with the means of detecting preservatives, adulterants, and substitutes. The student works independently as the course is outlined by the head of the department. The number may be limited according to the accommodations of the laboratory. Junior year, second semester.

11. ADVANCED WORK—Suitable courses will be outlined to meet the requirements of the individual graduate student desiring to carry on advanced work either as a major or as a minor in a course leading to an advanced degree in the graduate college of the university. The applicant for such a course must satisfy the head of the department as to his knowledge of general chemistry and as to his fitness for undertaking original investigations. The work will be under the direct supervision of the professor in charge of the department. Throughout the year. Time to be arranged.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS, MR. HOOVER, MR. BLYTHE, MR. STARBUCK, MR. BOOTS

The department of histology and embryology occupies the entire second floor of the newly completed medical laboratory building. This building has been designed with special reference to the requirements of microscopical work. North and east exposures, ample room, and unobstructed light give ideal conditions for this line of work. The laboratories of this department consist of two large rooms for general class work, a special laboratory equipped for advanced research work, a preparation room containing a complete stock of reagents, human tissues and those of lower animals, appliances such as microtomes for brain sections, paraffin and celloidin work, paraffin bath, electric motors with apparatus for preparing sections of teeth, bone, etc.

In connection with the laboratories are rooms devoted to a library, containing the latest books and journals pertaining to histology and embryology, a museum containing alcoholic specimens, and several thousand microscopic slides of stained and injected adult and embryonic tissues.

Classes are divided into small sections and a sufficient number of demonstrators are employed so that each student may have individual attention.

The illustrative material consists of charts, diagrams, models and blackboard drawings. Each student prepares for himself a complete series of 150 permanent specimens, illustrating the microscopic anatomy of the human body.

The most important methods in the technique of fixing, hardening, and staining tissues will be taught, including the celloidin, and paraffin methods, serial sectioning, injection methods, etc.

Each student is provided with a compound microscope and individual locker.

The lecture room is directly off the laboratories. It has a seating capacity of 250 and is provided with the most modern type of stereopticon, charts, and other appliances necessary for illustrated lectures.

The work in this department is divided into histology for the first semester and histology of the nervous system and embryology for the second semester. Students may enter at the beginning of the first or second semesters.

1. THE HISTOLOGY OF CELLS AND TISSUES—The first work of the course is on the structure and manipulation of the microscope. It is followed by a consideration of the classification and action of stains. Cell structure, as seen in the simpler forms of plant and animal cells, is first studied, then the more highly differentiated animal cells. After this the histology of the animal tissues is taken up. Freshman year, first semester, first term.

Three lectures and one recitation each week. Professor WHITEIS.

Laboratory work, six hours each week. Professor WHITEIS, Mr. HOOVER, Mr. BLYTHE.

2. THE HISTOLOGY OF THE DIGESTIVE TRACT, GENITO-URINARY TRACT, RESPIRATORY TRACT, SKIN AND ITS APPENDAGES—Freshman year, first semester, second term.

Three lectures and one recitation each week. Professor WHITEIS.

Laboratory work, six hours each week. Professor WHITEIS, MR. HOOVER, MR. BLYTHE.

3. THE HISTOLOGY OF THE NERVOUS SYSTEM—Freshman year, second semester, first term.

One lecture and one recitation each week. MR. HOOVER.

Laboratory work, six hours each week. Professor WHITEIS, MR. HOOVER, MR. BLYTHE.

4. EMBRYOLOGY AND BIOLOGY — The embryos of the chick, the frog, and some mammal will be studied, in addition to the lower forms of animal life. Freshman year, second semester, second term.

One lecture and one recitation each week. Mr. HOOVER.

Laboratory work, four hours each week. Professor WHITEIS, Mr. HOOVER, Mr. BLYTHE.

5. LABORATORY TECHNIQUE—An optional course. Freshman year, second semester, second term. Two hours each week. Professor WHITEIS, Mr. HOOVER, Mr. BLYTHE.

6. ADVANCED WORK FOR A DEGREE IN THE GRADUATE COLLEGE—As a prerequisite to advanced work in this department the student will be required to possess a good working

knowledge of both the methods and the subject matter of general histology and embryology. He will be assigned a private laboratory and offered such opportunities as the general laboratory and library afford. The department will supply the necessary materials in the way of tissues and reagents.

Two courses are offered as follows:

I. THE EYE—The histology of its tissues, considered in relation to both their phylogentic and their ontogentic development. The structure and development of the retina will be specially studied.

II. THE EAR—The investigation will proceed along the same lines as in the preceding course.

Throughout the year, hours to be arranged. Professor WHITEIS.

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

PROFESSOR CHASE; PROFESSOR MCCLINTOCK; PROFESSOR TEETERS, MR. WOLVERTON, MR. HALL AND MISS COOPER

1. INORGANIC MATERIA-MEDICA—The course is introduced by definitions, and a discussion of routes and modes of administering drugs, dosage, classification of official preparations, and prescription-writing, including the subject of incompatibilities. Following such general topics inorganic drugs are taken up in a natural order of grouping. Sophomore year, first semester. Two lectures and one recitation each week. Professor CHASE.

2. ORGANIC MATERIA MEDICA—Drugs both of vegetable and of animal origin will be considered. As before they will be grouped with reference to some dominant or characteristic action. Thus are grouped together drugs affecting the nervous system, the heart, and circulatory system, the respiration, etc. Toward the close of the year a general review is given. Sophomore year, second semester. Two lectures and one recitation each week. Professor CHASE.

3. THERAPEUTICS—General therapeutics is presented at the outset by means of such subjects as pneumotherapy, hydrotherapy, balneotherapy, climato-therapy, psychotherapy, hypnotism, suggestion, heat and cold, light and darkness, and other general theraupetic measures more or less mechanical.

Junior year, first semester, first term. Two lectures and one recitation each week. Professor CHASE.

4. THERAPEUTICS — Following the preceding course drugs of a general nature or such as affect the tissues of the body generally, and drugs which affect particular organized systems, are presented separately: for example, those used to stimulate or depress the heart, to modify nutrition, or those which act upon the nervous system. Junior year, first semester, second term. Two lectures and one recitation each week. Professor CHASE.

5. THERAPEUTICS—The preceding course is followed by a discussion of local remedies, that is, remedies acting upon mucous membranes to stimulate their functional activity. Prescription writing will be given careful attention throughout the year, the aim being to illustrate each drug with one or more practical prescriptions and to discuss briefly its mode of administration. Junior year, second semester. Two lectures and one recitation each week. Professor CHASE.

6. EXPERIMENTAL PHARMACOLOGY—During both semesters of the junior year a practical laboratory course is given, illustrating the action of the more important drugs upon the inferior animals. Professor CHASE and Mr. HALL.

7. THEORY AND PRACTICE OF PHARMACY—A lecture course. The history of the pharmacopœia will be discussed also metrology, with special attention to the metric system. The processes used in pharmacy which are of especial interest to the medical student will be considered, such as solution, clarification, percolation, the determination of specific gravity, the preparation of emulsions, suppositories, cachets, tablet-triturates, etc. The prescription from the pharmaceutical standpoint will receive careful attention. Freshman year, second semester. One hour each week. Professor TEETERS.

8. PHARMACEUTICAL PREPARATIONS — A laboratory course. The satisfactory production of twenty-five preparations embracing the various classes of the U. S. Pharmacopœia, National Formulary, etc., also work in filling prescriptions illustrative of chemical and pharmaceutical incompatibility is required. Freshman year, second term, second semester, and junior year, second term, second semester, seventy hours. Professor TEETERS, Miss COOPER.

9. MEDICAL LATIN—Those who have had but little opportunity to study Latin previous to entering upon their medical work will be afforded an opportunity in this course for special drill with the view to acquiring such a knowledge as must be in the possession of the accurate prescription-writer. It includes the work outlined in Crothers and Bice's *Elements of Latin*, and, in connection with this, work on prescription-writing. In the first semester the grammar is studied, including the two independent sets of exercises upon each chapter. These are especially designed to present those principles of Latin etymology and construction which are essential to an intelligent use of the terminology of pharmacy and medicine. In the second semester the study of the grammar is continued, special attention being given to the pharmacopœial nouns and anatomical terms. The prescription is taken up, its definition, analysis, formulæ, form, grammatical construction, language, and synthesis being studied. A review of the entire work completes the course. Throughout the year. Two hours each week. Mr. WOLVERTON.

10. ELECTROTHERAPEUTICS AND MASSAGE—The construction and manipulation of the various forms of apparatus are first considered and the practical workings of batteries and their accessories are demonstrated. The fundamental laws of electricity are given briefly, those of use to the student and practitioner being emphasized. The consideration of the currents in common use follows, with their differences and measurements. This includes galvanic, induced, alternating, and interrupted currents, also the choice of currents for different purposes, as the cautery. electrolysis, cataphoresis, etc. The physiological effect of the current, its therapeutical uses, and the electric current in diagnosis are considered. The use of the static machine and X-ray apparatus is taught by actual work and demonstration. The course includes also the principles of massage. Junior year, second semester. Twelve hours. Professor MCCLINTOCK.

11. PRACTICAL THERAPEUTICS—An elective course. This course consists in the preparation of theses by the students, upon stated cases involving original research and reference to the latest and most approved medical periodicals. Such theses are carefully read and criticised by the head of the department and filed away among the archives of the university library.

the laboratory work. About seventy different micro-organisms are studied in the laboratory. This department is fortunate in having associated with it, the state board of health bacteriological laboratory, which furnishes a great deal of material that will be utilized for class work. Junior year, seven hours each week during the first semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE, Mr. BYRNES.

4. SPECIAL PATHOLOGY AND PATHOLOGICAL HISTOLOGY —This course deals with the pathology of the special tissues and organs of the human body. The lectures are supplemented by demonstrations of gross pathological preparations derived from the clinics, autopsies and the pathological museum. Every fourth lecture will be illustrated by the use of the stereopticon. The laboratory work will comprise the preparation and study of microscopic sections, illustrating as far as possible, the subjects considered in the didactic lectures. Junior year, five hours each week during the second semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

5. HÆMATOLOGY—A didactic and laboratory course devoted to the study of blood. The course will begin with a consideration of the technique necessary for making a blood examination, and the student will receive thorough training in the use of the Thoma-Zeiss and Gower's Hemocytometers, the Von Fleishl and Gower's hemoglobinometers in the Hammerschlog apparatus, the hematocrit, and the various other instruments necessary for a blood analysis. This is followed by a consideration of the general and special pathology of the blood—the student being supplied with coverglass preparations representing the more important pathological conditions of the blood. The abundance of clinical material at the university hospital affords opportunity for thorough training in this subject. Senior year, one lecture and two hours of laboratory work each week during the first term of the first semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

6. CLINICAL MICROSCOPY — A didactic and laboratory course devoted to the study of urine, sputum, stomach contents, vomitus; fæces, milk, dropsical effusions, cyst contents, and animal parasites. And instruction in pathological technique, and such methods of clinical diagnosis as involves the usual microscopical and bacterial analysis. Special attention is given to the rapid diagnosis of fresh material, urine curettings and the

early signs of malignancy. Senior year—one lecture and two hours laboratory work each week during the second term of the first semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

7. AUTOPSIES—Post-mortem examinations are made of all available cases. Since no stated time can be set for these demonstrations, members of both junior and senior classes are excused from other work in hand to attend the clinical autopsies.

Students are permitted to assist at post-mortem examinations and are instructed in the methods of making such examinations and of recording proper protocols of the results.

The microscopic findings are studied in each case for comparison with the macroscopic changes. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

8. PATHOLOGICAL TECHNIQUE—An optional laboratory course designed for those who desire to specialize in pathology. The work will include the principles and general methods of the investigation of such material as usually comes to the pathologist for diagnosis. Also the principles and methods involved in research work. This course is also open to students in the graduate college. Number in class limited to six. Ten hours (or as much more time as desired) each week during the first term of the second semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

9. BACTERIOLOGICAL TECHNIQUE—A laboratory course designed for advanced students and physicians who desire to specialize in bacteriology. The course is intended principally to prepare the student for such duties as are usually required of health officials. The work will include the technique necessary for every form of bacteriological analysis. The drill in practical work will be thorough and complete—such that the graduates of the course will be competent and reliable bacteriologists. This course is also open to students in the graduate college. Number in the class limited to six. Twelve hours each week, during the first semester or twenty-four hours each week during the second term of the first semester. The course may be finished in less time in case the student devotes his entire time to this work. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE, Mr. BYRNES.

10. ADVANCED WORK FOR A DEGREE IN THE GRADUATE COLLEGE—The department offers opportunities, to candidates for higher degrees, for special work in pathology and bac-

teriology. The student will be assigned a private laboratory, will have free access to the special laboratory of the department and will be supplied with the tissues and reagents necessary for the work of such a course. Course and time to be arranged. Professor ALBERT.

DEPARTMENT OF THEORY AND PRACTICE OF MEDICINE

PROFESSOR BIERRING; DR. MCCLINTOCK, DR. DECKER

The instruction in internal medicine is by lectures, recitations, reviews, and clinics. Special attention is given to the physical examination of patients and analysis of secretions, in order to systematically interpret the clinical findings.

The pathology, pathogenesis, clinical course of disease, and applied therapeutics is regarded as of special importance. By reason of the continued increase in the number of clinical cases it is possible to illustrate most of the diseases treated in the didactic courses. As a considerable number of the patients are subsequently referred for operative treatment, the student has the opportunity of seeing the cases considered by more than one department.

The laboratory of the medical clinic is well equipped with all apparatus and reagents necessary to medical diagnosis, and furnished with general and special hand books.

1. PERCUSSION AND AUSCULTATION—A demonstration and recitation course in which the student is trained in inspection, percussion, and auscultation of the normal body, especially the thorax, after which the same methods are applied in examining morbid changes in typical cases, the student being required to carry on the work personally under the supervision of the instructor. Junior year. Two hours each week during first semester. Professor BIERRING.

2. PHYSICAL DIAGNOSTICS—A demonstration course in which the work in physical examination of patients is continued, and includes the special methods applied in the examination of the abdominal organs and the nervous system. Instruction is also given in the taking of clinical histories. Junior year. Two hours each week during second semester. Professor BIERRING.

3. THEORY AND PRACTICE OF MEDICINE—Infectious diseases, diseases of the circulatory and respiratory systems. A

lecture and recitation course. Junior and senior years. Four hours each week during the first semester. Professor BIERRING.

4. THEORY AND PRACTICE OF MEDICINE—Diseases of the digestive and urinary tract, metabolic diseases, and diseases of the nervous system. A lecture and recitation course. Junior and senior years. Four hours each week during the second semester. Professor BIERRING.

5. CLINICAL MEDICINE—Two clinics are held each week at which cases are presented for diagnosis and treatment. Patients are assigned to members of the senior class, who take the history, work out the present condition, and write the results, with differential diagnosis and plan of treatment. Each case is to be followed by the student assigned as long as it remains in the hospital. Whenever practicable, methods of treatment, such as massage, lavage, etc., are carried out by the student. The histories are read in whole or part at the clinical conferences. Junior and senior years. Three to four hours each week during first and second semesters. Professor BIERRING.

6. PRACTICAL ELECTRO-THERAPEUTICS—A demonstration course of the uses of electricity in the diagnosis and treatment of disease. Advanced students are instructed to apply the different methods of treatment personally and thus obtain a practical knowledge of the same. The student is taught here also the methods for generating X-Ray and of employing them in diagnosis and therapeutics. Senior year. Three hours each week throughout the year. Dr. MCCLINTOCK.

7. PAEDIATRICS—This subject is presented by means of lectures and recitations. Special stress is laid upon diagnosis, particularly of the contagious diseases and those of the gastro-enteric tract. The practical treatment of the common ills of infancy and childhood receive careful attention. Senior year, first semester, second term, twelve hours. Dr. DECKER.

8. ADVANCED WORK AND SPECIAL RESEARCH—Opportunity is afforded to senior and advanced students to pursue special research in internal medicine.

Candidates for higher degrees and members of the graduate college may, in the clinical laboratory, carry on special work in internal medicine leading up to such degrees under the supervision of the head of the department. Professor BIERRING.

DEPARTMENT OF SURGERY

PROFESSOR JEPSON; DR. BURGE, DR. CRAWFORD, DR. LAMBERT, DR. ALBERT

This subject is graded in the third and fourth years, and is taught by lectures and recitations; by laboratory work in minor surgery, operations on the cadaver, and surgical technique; by ward classes, and by clinics in the university hospital, at which operations in every branch of surgery are open to the class.

1. THE PRINCIPLES OF SURGERY—Hyperæmia; simple inflammation; infective inflammation; the process of repair; gangrene; shock; fever; surgical fevers; septicæmia; pyæmia; erysipelas; hospital gangrene; tetanus; hydrophobia; actinomycosis; anthrax; glanders; snake-bite; tuberculosis; surgical tuberculosis of joints and bones; syphilis. Lectures and recitations, three hours a week, first semester, junior and senior years. Professor JEPSON.

2. THE PRACTICE OF SURGERY AND ORTHOPEDIC SURGERY—Injuries and diseases of regions and systems; fractures and dislocations; deformities, with general principles of pathology and treatment. Lectures and recitations, four hours a week, second semester, junior and senior years. Professor JEPSON.

3. TUMORS—A special course on the classification, description, and pathology of tumors, with general principles of treatment. Lectures and recitations, with laboratory demonstration. One hour a week, first semester, second year. Dr. ALBERT.

4. MINOR SURGERY, BANDAGING, AND DRESSING—Practical instructions, by demonstration and practice, in the various manipulations of minor surgery, including the application of splints and bandages. Two hours a week, first semester, junior year. Drs. BURGE and LAMBERT.

5. OPERATIVE SURGERY—A dissecting-room course, consisting of all the operations in modern surgery, performed by sections of the class, under the supervision of instructors. Two hours a week, first semester, senior year. Drs. BURGE and LAMBERT.

6. OPERATIVE TECHNIQUE—Lectures and practical work on operative procedures, principles of asepsis, antisepsis, and sterilization; preparation of patient and operator, of instruments

and operating rooms; anæsthesia and anæsthetics; hæmostasis; ligatures; sutures; dressing and care of wounds. The technique of kidneys, gall-bladder, stomach, and intestinal surgery, and other operations, such as trephining, tracheotomy and intubation, are illustrated before the class on the lower animals under antiseptic regulations. One hour a week, first semester, junior year. Dr. CRAWFORD.

7. CLINICAL SURGERY—Clinics, at which advanced students are required to assist, and at which operations and manipulations in general surgery are demonstrated to students of third and fourth years, and to other students whose schedule does not prevent attendance. Three to four hours a week throughout the junior and senior years. Professor JEPSON.

8. WARD CLASSES—Examinations, observation and dressing of patients, in wards of the university hospital, in company with the assistant to the chair of surgery. Class in sections, daily work, first and second semester, senior year. Drs. BURGE and LAMBERT.

9. ANÆSTHETICS--During the junior year each member of the class will receive practical instruction in the production of general and local anæsthesia, under the supervision of the anæsthetist of the surgical clinic. Class in sections, one section a week. Junior year. Dr. LAMBERT.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

PROFESSOR GUTHRIE; DR. WHITEIS, DR. MUELLER

OBSTETRICS

This course embraces a thorough training in diagnosis of pregnancy, the physiology and pathology of pregnancy, diagnosis of presentation and positions, the management of labor, normal and abnormal, measurements of the pelvis, and a complete course upon surgical obstetrics; taught by wet specimens, upon the manikin, and upon patients when practicable.

The class is divided into sections for study and drill in diagnosis and in operative obstetrics.

1. DIDACTIC LECTURES—Two each week during the session upon obstetrics, including a discussion of physiology and pathology, management of gestation, management of labor, normal and abnormal labor, management of puerperium, dystoaic, and care of new-born child. Junior year.

2. OPERATIVE OBSTETRICS—Course of six lectures, illustrated by both dried and wet specimens. Senior year.

3. COURSE UPON THE MANIKIN for diagnosis and demonstrating the use of forceps and other mechanical appliances and in obstetrical manipulation, equivalent to one hour each week during the session. Senior year.

GYNECOLOGY

The instruction in this subject for both junior and senior classes combines didactic lectures, recitations, and demonstrations in both major and minor operative gynecology. The following courses are given:

4. BEDSIDE CLINIC—A ward clinic will be held every week, where each student will have an opportunity to examine the patient and to observe both the post-operative condition and the treatment of all operative cases. The merits of each case are discussed and indications for after treatment carefully studied. Students will be drilled in the matter of special diet and hygiene. Senior year.

5. WARD CLASS in diagnosis will be given each week throughout the year, at which sections will be instructed in the matter of securing good histories and drilled in taking the same. They will be taught how to conduct an examination and from history and physical condition to form correct diagnosis. Senior year.

6. DIDACTIC LECTURES—The first semester is occupied with lectures on the general scope of the subject, methods of examination, etiology, pathology, and general management of gynecological patients. The rest of the course will be devoted to a discussion of special conditions, operative and gynecological technique. Junior and senior years. One lecture a week.

7. CLINIC will be held each week, demonstrating methods of examination and diagnosis, illustrating both major and minor gynecological operations. A constant effort will be made to instruct in modern methods and improved technique. Junior and senior years.

8. GYNECOLOGICAL LANDMARKS—One hour each week during the first semester is devoted to a study of landmarks and cultivation of touch in palpating pelvic viscera.

DEPARTMENT OF OPHTHALMOLOGY

PROFESSOR DALBEY; DR. DEAN

The lectures are delivered and the clinics held in the amphitheater of the university hospital. The out-patients are treated and the work in ophthalmoscopy and refraction is done in the rooms on the ground floor of the west wing of the hospital.

At the operative clinic the students are divided into sections of six in order that they may see well the operations. Each section will see during the year all the ordinary ophthalmological operations. In the out-clinic work the students examine and diagnose the cases individually. They are taught the use of the ophthalmoscope, retinoscope, etc. They refract cases. They treat the external diseases of the eye. They see in-patients here week after week and notice the effect of operations or treatment on the cases.

Connected with these rooms is a clinical laboratory. In this laboratory the eyes, tumors, etc., that are removed, are mounted in glycerine for demonstration in the class. Microscopical preparations are also made. Bacteriological investigations are also made of the various conditions that are presented to the class. In the laboratory are preparations of every disease of the eye. These are open to the students for inspection.

The department is well supplied with ophthalmoscopes, retinoscopes, and instruments for refraction. Each student has a separate lamp in the out-clinic room for his work.

1. CLINICAL LECTURES, demonstrations and operations on the diseases of the conjunctiva, lids, lachrymal apparatus and external muscles of the eye. One hour a week, first semester, senior year. Professor DALBEY, Dr. DEAN.

2. CLINICAL LECTURES, demonstrations, and operations on the diseases of the lens, sclera, uveal tract, eye ball as a whole and orbit. One hour a week, second semester, senior year. Professor DALBEY, DR. DEAN.

3. LECTURES ON REFRACTION, ophthalmoscopy, and the relation of the eye to general diseases. Recitations covering the work done in these lectures and the clinical lectures. Dr. DEAN.

4. OUT-CLINIC WORK—Refraction. Examination of the eye with the opthalmoscope. Demonstration of and operation

upon cases. Treatment of out-patients. For this work the class is divided into three sections. One hour a week, first and second semesters. Dr. DEAN.

5. LABORATORY COURSE—The clinical laboratory is abundantly supplied with normal and pathological material for microscopic work. The material is turned over for preparation to those taking this course. Class is limited to two. It is recommended only to those who wish to do special work on the eye. Dr. DEAN.

DEPARTMENT OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY

PROFESSOR DEAN

The department of otology occupies the ground floor of the west wing of the university hospital.

The suite of rooms is composed of a large waiting room, a clinical room, a combined operating and treating room and a clinical laboratory.

The major operations are performed in the surgical amphitheatre of the hospital.

The clinical room is supplied with enough lights on brackets with universal movement so that each student has a light for his individual work.

The treatment and operating room is well furnished with instruments for operations upon the ear, nose and throat and for their treatment.

Connected with the clinical room is a clinical laboratory in which are microscopical specimens of all the diseases of the ear, nose and throat. There is also an abundance of anatomical sections showing the pathological, the normal, and the anomalous conditions of the ear, nose and throat. These preparations are so arranged that the student may take them and study them at his leisure. He may diagnose his case in the clinic room and merely step across the hall and examine the gross and microscopical characteristics of the disease present. Examinations of various secretions and discharges obtained in the clinic are examined here.

In the new laboratory building there is a clinical laboratory for this department. This laboratory is abundantly supplied with pathological specimens of diseases of the ear, nose, and larynx. There is an abundance of normal anatomical speci-

mens of the head, nose, temporal bone, and larynx. These specimens have the soft parts adherent to the bone, They are nicely hardened in formaldehyde and alcohol.

The laboratory is well equipped with microscopes, microtomes, and all the ordinary apparatus used in microscopical work.

Any senior student wishing to make a special study of this subject is allowed the use of these instruments. He is furnished with the anatomical material for dissection, with normal and pathological material for mounting specimens etc, free.

The instruction is given by lectures, recitations, and personal work done in the clinic.

There are two kinds of clinics, the out-clinic, and the clinic for major operations. The students attend the clinics only in sections. By this section method of teaching, each student receives personal instruction and at the operating clinic all can see.

In the out-clinic each student receives one or two patients. By himself he must examine, and diagnose the case and recommend treatment for the same. The endeavor is to teach in a practical way the manipulation of ear, nose and throat instruments.

In the university clinic there is an abundance of material for this work.

During the year the student can see as often as he wishes all the ordinary operations upon the ear, nose and throat.

Three out-clinics in this department are held each week at the university hospital in order that the class may do work in sections.

1. METHODS OF EXAMINATION AND DIAGNOSIS OF DISEASES OF THE EAR, NOSE, AND THROAT—The anatomy and physiology of the diseases of the nose and the nasal pharynx. Lectures and recitations. First semester, two hours a week.

2. ANATOMY AND PHYSIOLOGY AND DISEASES OF THE LARYNX—Lectures and recitations. Senior year, second semester, first term, two hours a week.

3. ANATOMY AND PHYSIOLOGY AND DISEASES OF THE EAR—Lectures and recitations. Senior year, second semester, second term, one hour a week.

4. PRACTICAL CLINICAL INSTRUCTION AT THE UNIVERSITY HOSPITAL in diagnosis of the diseases of the nose

throat and ear, in methods of examination, in the practical use of instruments and in the application of remedies, operative and medical; in sections of not more than twenty each. Senior year, first and second semester, two hours a week.

5. CLINICAL, MICROSCOPICAL, AND PRACTICAL ANATOMY OF THE EAR, NOSE, AND THROAT—Four hours a week for one semester. Course optional. Number limited to two.

MEDICAL JURISPRUDENCE

MILTON REMLEY

The course is opened with the consideration of the nature and purposes of law, then of laws affecting the practice of medicine. Malpractice is discussed and the liability of the physician to the patient and others, including that of municipalities for the treatment of patients. The questions of legal insanity, expert evidence and expert witnesses, hypothetical cases, causes of death, and post mortem examination follow, and, in conclusion, the subject of state and local boards of health, quarantine regulations, etc. Senior year, first semester, twelve hours.

INSANITY

DR. HILL

This subject is discussed as concisely as possible with the special needs of the general practitioner constantly in view, and the material that appears at the clinic from time to time during the term is utilized in illustration. Senior year, second semester. Twelve lectures, with clinical instruction at the Hospital for the Insane at Independence.

HYGIENE

DR. CLARK

Instruction in hygiene, in addition to that given in pathology, bacteriology, and physiological chemistry, consists of a course of lectures and recitations. In this course will be considered the predisposing factors of disease; the principles on which immunity depends; the relation of ventilation, water-supply, food, and the disposal of waste to the public health; climatology, heredity, vital statistics and other subjects. A syllabus of the lectures will be available which will contain references to the literature of each subject. Junior year, first semester, twenty-six hours.

DERMATOLOGY

DR. KESSLER

The instruction in this branch is largely clinical, students of the class being assigned patients for examination, diagnosis, and treatment. Didactic lectures and recitations are given on the rarer forms of disease. Senior year. Throughout the session, one hour each week.

DENTISTRY

DR. BREENE

The lectures on this subject comprise such principles of dental pathology and therapeutics as are essential to the practitioner of medicine. Instruction is given in the application of mechanical appliances for the correction of cleft palate, also in methods of applying retention in fractures of maxilla. Junior year, second semester, five hours.

TEXT-BOOKS AND BOOKS OF REFERENCE

The following are recommended by the faculty:

Medical Dictionary—Gould, Duane, Dunglison.

Anatomy—Gray, Quain, Gerrish, Morris, Treve's Surgical Applied Anatomy.

Dissectors—Holden, Heath, Ellis.

Comparative Anatomy—Wiedersheim, Jeffery Bell, Howell.

Physiology—American Text-Book, Kirk, Stewart, Stirling.

General Chemistry—Remsen, Bartley, Roscoe and Schorlemmer.

Analytical Chemistry—Rockwood.

Physiological Chemistry — Rockwood, Simon, Herter, Vaughn and Novy.

Urine Analysis—Purdy, Ogden.

Toxicology—Wormley, Taylor.

Surgery—Park, American Text-Book of Surgery, DaCosta, Stimson on Fractures and Dislocations, Wharton's Minor Surgery and Bandaging, Warren's Surgical Pathology, Senn on Tumors.

Pathology—Stengel, Delafield and Prudden, Copin, American Text Book, Green.

Bacteriological Technique—Eyre.

Pathological Technique—Malloy and Wright.

Clinical Diagnosis—Simon, von Jaksch, Oertel.

Haematology—Ewing, Cabot, or DaCosta.

Bacteriology—McFarland, Minor and Ritchie, Crookshank, Williams, Abbott and Park.

Practice of Medicine—Osler, Struempel, Tyson, Anders, Thompson, Eichorst, American Text-Book of Theory and Practice of Medicine, Albutt.

Physical Diagnosis—Cabot, Herrick, Tyson.

Medical Diagnosis—Butler, Vierordt, Musser, DaCosta, Flint.

Obstetrics—American Text-Book of Obstetrics, Lusk, Davis, Parvin, Leishman, Playfair, King, Dorland.

Obstetric Surgery—Grandin and Jarmin.

Embryology—Minot, Manton.

Gynecology—Skene, Thomas and Munde, Garrigues, American Text-Book, Pozzi, Davenport, May's Manual, Clinical Gynecology, Keating and Coe, Dudley.

Materia Medica—White and Wilcox, Potter, Cushny.

Therapeutics—Sollmann, Hare, Wood.

Diseases of Children—Holt, Starr's American Text-Book, J. L. Smith, Goodhart.

Medical Jurisprudence — McClellan's Civil Malpractice, Wharton and Stille, Beck, Elwell.

Histology—Stoehr, Piersol, Schafer, Stirling.

Ophthalmology—Fuchs, Juler, Noyes, Nettleship on the Eye.

Otology and Rhino-Laryngology—Deuch, Bosworth, Kyle, Price-Brown, Buck, McBride, American Text-Book.

Insanity—Compendium of Insanity, Chapin; Mental Diseases, Berkley; Nervous and Mental Diseases, Church and Peterson.

Dermatology—Jackson, Crocker, Stelwagon and Hyde.

Hygiene—Notter and Firth, Abbott.

Dietetics—Thompson, Pavy.

Text-books and books of reference can be obtained at an average cost per volume of from $2.00 to $5.00, or $15.00 to $20.00 per year.

The thorough study of a single text-book in each department is of far greater advantage to the student during his college course than the cursory reading of several. It is therefore

advised that a single work in each branch be chosen, using any of the others for reference. The first one of each of the above lists is preferred.

UNIVERSITY HOSPITAL

The university hospital was erected by the university in 1897 at a cost of fifty-five thousand dollars, and ten thousand dollars have recently been expended in remodeling and equipping the institution after the latest and most modern ideas until the university may now with justice boast of the finest and most modernly equipped hospital in the West. With an administration building thoroughly furnished, with large and commodious wards, as well as private rooms, with a clinical amphitheatre that will comfortably seat two hundred or more, and with separate surgical, gynecological, medical, ophthalmological, and laryngological operating rooms, together with a well supplied Free Dispensary, open throughout the year, but little is left to be desired.

CLINICS

The enormous increase in the number of clinical cases treated at the university hospital this year as compared with that of last has made the amount of material so great as to furnish the medical department with a generous abundance of cases of almost every kind and character. Each case is fully utilized as a means of instruction for the benefit of the students. Members of the senior class, under the direction of the professors in charge, make a careful study of each case before it is operated upon. The amount of clinical material is now such that each member of the senior class is required to examine and report upon a number of cases each week in addition to observing all others. The students of the senior class are divided into ward classes of six or eight men and are required to accompany the attending physicians in their rounds and are given opportunities to study the treatments given, to observe the progress of each case, and note the dressings used.

CLINICAL PATIENTS

Medical cases should be referred to Professor W. L. Bierring; surgical cases to Professor Wm. Jepson; gynecological cases to Professor J. R. Guthrie; eye cases to Professor J. W. Dalbey; ear, nose, and throat cases to Professor L. W. Dean; dermatological cases to Dr. J. B. Kessler.

RESIDENT PHYSICIANS

Appointments as resident physicians in state and other institutions are made each year from the graduates of the college of medicine. These are awarded to such of the applicants as the faculty judges best prepared for the positions, the successful candidates being allowed to select, in the order of their rank, from those which are available.

For the present year the appointments are, Dr. Clarence C. Hetzel, University Hospital: Dr. Ellis J. Whitaker, Mercy Hospital, Davenport.

REQUIREMENTS FOR GRADUATION

1. The candidate must be twenty-one years of age.
2. He must be known to be of good moral character.
3. The time of study must include attendance upon at least four full courses of lectures, the last of which must be taken in this institution. The time occupied by each of the four courses of lectures, shall not be less than thirty-four weeks, and no two of the four courses shall be within the same year.
4. The candidates must have satisfactorily completed at least four courses in practical anatomy.
5. The deportment during the term must have been unexceptionable.
6. Attendance upon all lectures, clinics, and other instruction in the course must have been in accordance with the requirements of the college.
7. All members of the freshman class will be examined in general chemistry, histology, physiology, and anatomy at the end of that year. The examination in general chemistry and histology will be final should the student show the required proficiency.
8. Members of the sophomore class at the end of that year must pass satisfactory examinations in anatomy, physiology, physiological chemistry, general pathology, materia medica and pharmacy.
9. Members of the junior class will be given a final examination at the end of the year in therapeutics, obstetrics, hygiene, special pathology, and bacteriology.

In the case of failure to pass any of the examinations, the student must be re-examined before registration at the opening of the next session. If he fail in this second examination, he

will be allowed to present himself for re-examination only after attendance upon another course of lectures, and to this he will not be admitted unless his average record for the previous year is satisfactory. A failure in more than two branches at the September examination will debar the student from admission to a higher class.

Students of the senior class who are candidates for the degree of Doctor of Medicine must, before May first, present to the secretary of the faculty certificates of legal age. During the last week of the term, having complied with the other requirements, they must pass a satisfactory examination in practice of medicine, surgery, ophthalmology, gynecology. pædiatrics, dermatology, otology, and rhino-laryngology, and in any other subjects taught, if so directed by the faculty at the beginning of the term.

Class standing and recitation marks, together with demonstrators' reports and final examinations, will be taken into consideration when determining the candidate's fitness to receive the medical degree.

TUITION

Every student, before entering any department of the university is required to pay a matriculation fee of ten dollars. This fee is required the first year only.

The tuition charges in the college of medicine are twenty-five dollars a semester, and is due at the opening of each semester. A student registered in more than one college of the university is required to pay the tuition of the college having the higher or highest rate of tuition, of the colleges in which he is registered, and is then granted free tuition in any other college of the university. Thus students taking the combined liberal arts and medical course pay the liberal arts tuition of ten dollars a semester while they are taking work in that college only, but as soon as they take up the work in the college of medicine they are required to pay the regular tuition of the medical college and are granted free tuition in the college of liberal arts.

Students entering the college from other schools with advanced standing will pay ten dollars for dissecting materials used in making up deficiencies in this branch. A student carrying six hours or less of work in the university shall pay half the regular tuition in the college in which he is registered for the time during which he shall carry such work. For all honorably

discharged soldiers or sailors of the Spanish-American war, who are taking a full course in this college there is an annual remission of twenty dollars from the above tuition fees.

There are no extra fees whatever, but for each laboratory course in chemistry, bacteriology and practical pharmacy, there is required a deposit of $3.00 to cover breakage and to insure the return of all keys at the close of the session. This sum (breakage, if any, deducted) is returned to the student on presentation of the certificate of the professor in charge of the laboratory in question.

The above statement is now in effect and will be understood to apply to all students in the college, irrespective of date of matriculation.

Alumni of the college will be admitted to lectures and clinics free of charge, but will pay the usual laboratory fees. Graduates of other medical colleges which are recognized by this college, will, when not candidates for a degree, be admitted to full lecture privileges upon paying the matriculation fee of $10.00 and a fee of $10.00 with the usual laboratory fees.

Seats will be assigned by classes in the order of registration at the university.

A certificate of attendance will be issued to each student at the close of the session.

NECESSARY YEARLY EXPENSES

Matriculation fee (first year only)	$ 10	$ 10
Tuition fee	50	50
Breakage	1 to	2
Room rent, 9 months	18 to	72
Board, 36 weeks	72 to	108
Books	12 to	20
Total	$163 to	$262

ALUMNI LIST

Graduates of this college are requested to acquaint the secretary of the faculty immediately with their postoffice addresses and to inform him promptly of any change of residence.

The following is a specimen programme:

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physiol'gy	Chemistry	Physiol'gy Recitation	Chemistry	Histology Recitation	
9 to 10	Histology	Physiol'gy	Histology	Anatomy	Histology	Anatomy
10 to 11	Anatomy	Anatomy	10:00 to 12:00 *Chemical Laboratory Sec. II*	10:00 to 12:00 *Chemical Laboratory Sec. I*	Chemistry	10:00 to 12:00 *Histologic'l Lab. Sec. II*
11 to 12					Pharmacy 2nd Sem.	10:00 to 12:00 *Chemical Lab. Sec. I*
1 to 2	1:00 to 3:00 *Histologic'l Laboratory Sec. I*	1:00 to 3:00 *Histologic'l Laboratory Sec. II*	1:00 to 3:00 *Histologic'l Laboratory Sec. I*	1:00 to 3:00 *Histologic'l Laboratory Sec. II*	1:00 to 3:00 *Histologic'l Laboratory Sec. I*	
2 to 3		1:00 to 3:00 *Chemical Laboratory Sec. I*			1:00 to 3:00 *Chemical Laboratory Sec. II*	
3 to 4	3:15 to 5:15	3:00 to 5:30	3:00 to 5:30	3:00 to 5:30	3:00 to 5:30	
4 to 5	*Chemical Laboratory Sec. II*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

SOPHOMORE YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9		Anatomy	Materia Medica	Materia Medica	Pathology Recitation	
9 to 10	General Pathology	Ph'si'lo'ic'l Chemistry	Physiol'gy	Physiol'gy	Physiological Chemistry	8:00 to 12:00 Physiological Laboratory
10 to 11	Physiol'gy	10:00 to 12:00 *Physiologi'l Laboratory*	Anatomy			
11 to 12	Surgical Clinic			Anatomy	Anatomy	
1 to 2	1:00 to 3:15 *Physiologi'l Chem. Lab. Sec. I*	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. II Jan. to June*	1:00 to 3:15 *Physiologi'l Chem. Lab. Sec. II*	1:30 to 5:30 *Physiologi'l Laboratory*		
2 to 3	1:00 to 3:00 *Physiologi'l Laboratory Jan. to June*	1:00 to 3:00 *Physiologi'l Laboratory Sept. to Jan.*	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. I Jan. to June*			
3 to 4	3:00 to 5:30	3:00 to 5:30	3:00 to 5:30		3:00 to 5:30	
4 to 5	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*		*Anatomical Laboratory*	

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Practice	Surgery	Practice		Practice	*Pathology Recitation*
9 to 10	Surgery	9:00 to 11:00 *Gnyecological Clinic*	Therapeutics	Therapeutics	Surg. Tech. 1st Sem. Surg. Anat. 2d Sem.	*Practice Recitation*
10 to 11	10:00 to 12:00 *Surgical Clinic*		Pathology	Pathology	Physiol'gy 3d Term	10:00 to 11:00 Physical Diagnosis Demonstrations Sec. I
11 to 12		Gynecology	Hygiene 2nd Sem.			
1 to 2	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. I*	1:30 to 3:00 *Surgical Clinic*	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. II Until Jan.*	1:30 to 3:00 *Medical Clinic*	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. I Until Jan.*	1:00 to 3:00 *Pathol'gic'l Laboratory Sec. II*
2 to 3			2:00 to 3:00 Hygiene 2nd Sem.			
3 to 4	Surgery	Obstetrics		3:00 to 5:00 Pharmacology	1:00 to 2:00 Physical Diagnosis Demonstrations Sec. II	
4 to 5		Obstetrics				

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Practice	Surgery	Practice	Ear, Nose and Throat	Practice	Ear, Nose and Throat
9 to 10	Surgery	9:00 to 11:00 *Gynecological Clinic*	Medical Diagnosis	Practice Recitation	Practice	Ward Class
10 to 11	10:00 to 12:00 *Surgical Clinic*		Paediatrics 2nd Term	Refraction	10:00 to 12:00 *Clinical Microscopy Sec. I*	10:00 to 12:00 *Clinical Microscopy Sec. II*
11 to 12		Gynecology		Ward Class		
1 to 2	1:00 to 3:00 *Ear, Nose and Throat Clinic*	1:30 to 3:00 *Surgical Clinic*	1:00 to 2:00 Dermatology	1:30 to 3:30 *Medical Clinic*	1:00 to 3:00 *Ear, Nose and Throat Clinic*	
2 to 3			2:00 to 3:30 *Eye Clinic*			
3 to 4	Surgery	5:00 to 6:00 *Operative Obstetrics*	3:30 to 4:30 Ophthalmology		1:30 to 3:00 *Dispensary*	
4 to 5	1:30 to 3:00 *Dispensary*		4:30 to 6:00 *Ear Nose and Throat Clinic*			

UNIVERSITY HOSPITAL

OFFICERS OF THE HOSPITAL

WILLIAM R. WHITEIS, B. S., M. S., M. D.,
Director.

CLARENCE C. HETZEL, M. D.,
Resident Physician.

ANTONIO EPENETER, Graduate Nurse,
Principal of the Training School.

ADELAIDE LOUIS,
Matron.

SCHOOL FOR NURSES

The university conducts in connection with the university hospital and the college of medicine, a training school for nurses designed to provide the best of instruction and experience for those who desire to enter the profession of nursing. The course extends over three years and provides instruction and experience in handling all kinds of cases. The instruction is given by the regular professors and lecturers of the college of medicine, and the principal of the training school together with some special lectures by outside authorities on topics of interest and importance to nurses. An information bureau is conducted in connection with the school for the benefit of the graduate nurses. Persons desiring to enter the training school will do well to make application some months before they are ready to enter upon their duty as it may be some time before a vacancy occurs.

The following course of lectures does not include the special lectures given before the school:

Diseases of the Eye - - - - - - - DR. DALBEY
October, Wednesdays, at 4 P. M.

Throat and Nose - - - - - - - - - DR. DEAN
November, Wednesdays, at 7:15 P. M.

Surgical Nursing - - - - - - - - DR. JEPSON
October and November, Mondays, at 7:15 P. M.

Bacteriology and Infectious Diseases - - - DR. ALBERT
October and November, Tuesdays, at 7:15 P. M.

Materia Medica - - - - - - - - DR. CHASE
December and January, Wednesdays, at 7:15 P. M.

Internal Diseases - - - - - - - DR. BIERRING
December and January, Mondays, at 7:15 P. M.

Chemistry of Foods, Dietetics, and Infant Feeding - DR. ROCKWOOD
February and March, Wednesdays, at 7:15 P. M.

Hygiene - - - - - - - - - DR. CLARKE
February, Wednesdays, at 3:00 P. M.

Electro Therapeutics - - - - - DR. MCCLINTOCK
March, Thursdays, at 7:15 P. M.

Anatomy - - - - - - - - - DR. HARRIMAN
April and May, Tuesdays, at 7:15 P. M.

Physiology - - - - - - - - DR. MCCLINTOCK
April and May, Thursdays, at 7:15 P. M.

Diseases of Women - - - - - - DR. GUTHRIE
December and January, Tuesdays, at 7:15 P. M.

Genral Chemistry - - - - - - - DR. BARLOW
May, Mondays, at 7:15 P. M.

Recitations or Practical Instruction, - - - MISS EPENETER
3 hours each week

THE COLLEGE OF HOMEOPATHIC MEDICINE

THE COLLEGE OF HOMEOPATHIC MEDICINE

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., PH. D., LL. D.,
President of the University.

JAMES G. GILCHRIST, M. A., M. D.,
Professor of Surgery.

CHARLES H. COGSWELL, M. D.,
Emeritus Professor of Obstetrics and Diseases of Women.

GEORGE ROYAL, M. D.,
Professor of Materia Medica and Therapeutics, Dean of the Faculty

BENJAMIN R. JOHNSTON, M. D.,
Prosessor of Theory and Practice, and Clinical Medicine.

FREDERICK J. BECKER, M. D.,
Professor of Obstetrics and Gynecology.

WILLIAM L. BYWATER, M. D., O. et A. Chir.,
Professor of Ophthalmology, Otology, Rhinology, and Laryngology. Secretary of the Faculty. Director of the Hospital.

*†JOHN W. HARRIMAN, M. D.,
Professor of Anatomy.

*ELBERT W. ROCKWOOD, B. S., M. A., M. D.,
Professor of Chemistry and Toxicology.

*HENRY ALBERT, B. S., M. S., M. D.,
Professor of Pathology and Bacteriology.

*WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology.

*JOHN THOMAS MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

LEORA JOHNSON, M. D.,
Clinical Assistant to the Chair of Surgery.

†Died January 25, 1904.

RAYMOND E. PECK, M. D.,
Assistant to the Chair of Surgery.

LINTON W. STRUBLE, M. D.,
Assistant to the Chair of Materia Medica.

THEODORE L. HAZARD, M. D.,
Assistant to the Chair of Obstetrics and Gynecology, and Lecturer On Pedology.

JAMES MOORHEAD, M. D.,
Assistant to the Chair of Theory and Practice, and Lecturer on Dermatology.

*JOHN PATRICK MULLIN, M. D.,
Demonstrator of Anatomy.

*GERSHOM HYDE HILL, B. A., M. A., M. D.,
Lecturer on Insanity.

MILTON REMLEY, B. A., M. A.,
Lecturer on Medical Jurisprudence.

ELVA M. DUNHAM,
Superintendent of the Hospital, and of the Training School for Nurses.

GEORGE HAND,
FRANK AERIAN,
PERRY G. INGERSOLL,
Hospital Internes.

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*Members of the Faculty of the College of Medicine.

THE COLLEGE OF HOMEOPATHIC MEDICINE

The twenty-eighth annual course of instruction will open on Thursday, September 22, 1904, at 8 o'clock a. m. In the afternoon of the same day, at 4 o'clock, the university convocation will be held, which constitutes the formal opening for all the colleges.

The year is divided into two semesters, each divided into two terms of nine weeks each. The commencement exercises and conferring of degrees will occur at 10 o'clock a. m., on June 15. 1904.

The course of study extends over four years, of nine months each. Men and women are admitted on equal terms. The large and well equipped laboratories in the university, the hospital facilities afforded by the union of the college and hospital under one roof, and the opportunity for collateral study in any department of literature or science, furnish facilities for securing an education in medicine not to be surpassed. Furthermore, a diploma from a university of the first rank has a value that does not attach to that of any private school.

SPECIAL ADVANTAGES OF THIS COLLEGE

1st. In equipment and instruction our laboratories are better than those of any homeopathic college and equal to those of any college in the United States.

2nd. In the libraries of the university and college are about 60,000 volumes at the command of all matriculates.

3rd. The museums of the university afford an education in themselves.

4th. The association of our students with the other colleges of the university broadens the intellectual horizon.

5th. The people of Iowa are partial to the State University of Iowa graduates: Every year the number of calls for desirable positions sent the faculty for our graduates, is more than double the number of graduates.

6th. The cost of living in Iowa City is much less than in larger cities, while the social advantages are greater.

7th. The college being a part of the state university, its diploma will never depreciate in value.

8th. The numbers of students compared with the number of instructors is not so large as to prevent each student from receiving individual attention, not only in the laboratories, but in the quizzes and sub-clinics.

9th. The last and most important advantage lies in our combined courses. The public at the present time require a broad and liberal education of the medical profession. We are prepared to meet this demand. We are prepared to take the graduates of our high schools and after six or seven years of careful and systematic training return them to the public fully equipped.

The faculty most urgently recommends the courses leading to the degrees of B. Ph. and M. D., or B. S. and M. D., to all who contemplate entering the medical profession. The degrees of B. A. and M. D. may also be obtained in the combined course.

REQUIREMENTS FOR ADMISSION

1. Each applicant for admission must present to the secretary of the faculty a satisfactory certificate of good moral character, signed by two physicians of good standing in the state from which he comes.

2. The following classes of applicants may be admitted without examination:

a. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges, together with a special certificate that they have studied Latin at least one year.

b. Graduates of normal schools established by state authority who present diplomas or certificates of graduation, together with a special certificate that they have studied Latin at least one year.

c. Graduates of accredited or other approved secondary schools who present *twenty-four* (*24*) preparatory credits, including at least one year of Latin. *One preparatory credit is defined as the equivalent of one high school study five days a week during a semester at least eighteen weeks in length, on the basis of four studies a day.* The preparatory credits must

be properly certified by the superintendent or the principal of the school from which the applicant comes, and sent to the university examiner *as early in the summer as possible.* A blank form for such reports can be obtained by addressing the president of the university, the secretary of the faculty of the college of homeopathic medicine, or the university examiner.

3. Applicants who present *twenty-two* (*22*) preparatory credits properly certified (as indicated under 2 c) may be admitted without examination, *on condition that they complete their preparation within one year from the date of their admission.* No applicant whose deficiencies exceed *two* (*2*) preparatory credits will be admitted as a candidate for graduation.

4. In September, 1904, applicants who do not present credentials as described above will be admitted without conditions *only upon passing examinations* in the following preparatory subjects:

a.	Latin (one year)	2 credits
b.	English	2 credits
c.	United States History	1 credit
d.	Arithmetic	1 credit
e.	Algebra, through quadratics	3 credits
f.	Plane Geometry	2 credits
g.	Physics (one year)	2 credits
h.	Botany or some other science	1 credit

5. The applicant who passes examination in all of the subjects enumerated under 4, except such as stand for a total of *two* (*2*) preparatory credits, may be admitted *on the condition stated in paragraph 3.*

6. Applicants who present proper *certificates* covering all or any part of the preparatory studies designated under 4 for examination, may be admitted upon passing examinations in enough *other* preparatory studies to bring the number of their preparatory credits up to at least *twenty-two* (*22*), *on the condition stated in paragraph 3.*

7. All applicants who are admitted without Latin will be required to take the one-year course in medical Latin specially provided by the university, the fee being $5.00 for the course. This course is not a part of the regular course in homeopathic medicine, but is offered as a convenience for such applicants

for admission as have not studied Latin. The class in this course will be organized on Monday, October 3, 1904. Students who take this course are required to pay this fee at the time when they pay the first installment of their regular tuition fee.

8. Students who enter with conditions in *other* preparatory studies than Latin must pass the regular entrance examinations in these studies either in February or September, 1905.

9. Students entering from other colleges of medicine with advanced standing must present credentials for preparatory work or be examined as stated above.

10. It is urged that any one expecting to enter the college of homeopathic medicine next September send all certificates of preparatory work to the university examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean, or the secretary of the faculty, for signature.

ENTRANCE EXAMINATIONS

Any person expecting to enter the college of homeopathic medicine next September should be careful to learn before the opening of the university exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the university, the secretary of the faculty of the college of homeopathic medicine, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programme given below.* He should present himself at once at the office of the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the university. For *a series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 19, to Wednesday, September 21, 1904

Arithmetic,	1 credit,	Monday,	1:30 p. m.
Latin,	2 credits,	Monday,	3:30 p. m.
English and Eng. Grammar	2 credits,	Tuesday,	4:30 p. m.
United States History,	1 credit,	Tuesday,	1:30 p. m.
Algebra,	3 credits,	Wednesday,	8:00 a. m.
Plane Geometry,	2 credits,	Wednesday,	9:30 a. m.
Physics,	2 credits,	Wednesday,	1:30 p. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.

SECOND SEMESTER

Thursday, February 9, to Saturday, February 11, 1905

The examinations will be held at the same hours as in the programmes above, reading Thursday, Friday and Saturday for Monday, Tuesday and Wednesday, respectively.

All students having deficiencies in their medical work will appear for examination according to the following schedule.

Wednesday, September 21

Histology,	8:00 a. m.
Physiology,	10:00 a. m.
Pathology,	10:00 a. m.
Anatomy,	11:00 a. m.
Materia Medica,	3:00 p. m.
Chemistry,	4:00 p. m.

COMBINED COURSES

Arrangements have been made with the faculty of the college of liberal arts by which it will be possible for a student to receive credit in one college for work done in the other, thereby obtaining a degree in each in a shorter time than if the two courses were taken independently. These combined courses are especially recommended to all students who intend to enter the profession of medicine.

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSES LEADING TO THE DEGREES B. A. AND M. D., OR B. PH. AND M. D.

1.	Some *one* foreign language (Latin* preferred, but Greek, French or German accepted),	†4 credits
2.	English and Literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics or science),	13 credits
	Total,	30 credits

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSE LEADING TO THE DEGREES B. S. AND M. D.

1.	Some one foreign language (Latin* preferred but German or French accepted)	4 credits
2.	English and literature,	6 credits
3.	History, (may include civics)	4 credits
4.	Algebra (through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics, or science),	13 credits
	Total,	30 credits

For a detailed statement of the requirements for admission see the latest announcement of the college of liberal arts.

*Applicants who do not present at least *one year* of Latin will be required to take the one-year course in Medical Latin at the University.

†Applicants who do not present *eight* semesters of foreign language will be required to take in the university, *with credit, in addition*, to the foreign language required in these two combined courses, respectively, the difference between eight semesters of preparatory work and the amount presented.

COMBINED COURSE IN THE COLLEGE OF LIBERAL ARTS (SCIENTIFIC COURSE) AND THE COLLEGE OF HOMEOPATHIC MEDICINE

First Year	*Second Year*
German—5	German—3
Mathematics—4	English—3
Physics—4	Chemistry—4
English or Drawing*—2	Zoology—4
	Animal Physiology—3

Third Year

Botany—4	Animal Morphology (adv.)—4
Chemistry—2	Elective in College of Liberal Arts—5

Fourth Year	*Fifth Year*
Medical work exclusively	Medical work exclusively

Sixth Year	*Seventh Year*
Medical work exclusively	French—10 semester hours
	Elective in College of Liberal Arts—10 semester hours

It is deemed possible for students of marked ability to complete this course in six years by taking one year's work in French and one year's work in an elective in the college of liberal arts, in addition to the medical work in the fifth and sixth years of the combined course, or where practicable.

PROMOTION

Admission to higher classes is secured only by examination, oral, written, or both, combined with the quiz-record and class standing. A failure to pass in two or more studies will prevent advancement until the conditions are satisfied. A failure in one study will not prevent advancement, but the student must pass a satisfactory examination in that study before the close of the year to which he is promoted. Students presenting credentials from colleges of homeopathic medicine in good standing in the American Institute of Homeopathy, may be admitted to the classes to which such credentials would admit them in the college from which they are issued. The faculty reserves the right to determine the class which any student shall enter, in the case of applicants who have had one or more years in other medical schools.

*Conditions as in General Scientific Course.

ADVANCED STANDING

Graduates in science or arts, also those with degrees in pharmacy or dentistry, from accredited schools, under the requirements of the State Board of Medical Examiners, may be granted advanced standing equal to one year's credit, on a schedule of studies to be determined in each case.

Students from colleges in good standing, who, during their college course, have devoted regular time to the study of the following branches: biology, botany, chemistry, physics, histology, physiology, and human anatomy, may be admitted to the second year of the medical course.

The number of hours following has been adopted as covering the above requirements:

	DIDACTIC	LABORATORY
General biology with physiology, especially the physiology of circulation, respiration, nerve and muscle, excretion,	180	
Botany, collegiate grade,	72	
Mammalian anatomy with comparative anatomy (human),	60	60
Zoology, not including anatomy,	120	120
Chemistry, non-metallic, metallic, and organic, including stochiometry,	100	200
Physics,	180	
Histology, of cells and tissue,	32	48
Digestive tract, accessory glands, etc.	22	33
Respiratory tract, skin, and nervous system,	36	72
Also genito-urinary histology,	—	—
Embryology,	60(including laboratory)	

An opportunity will be given at this college for making up the human dissection of the freshman year.

Graduates from literary or scientific colleges having premedical courses which have been approved by this faculty will be admitted to the sophomore class upon the presentation of certificate of graduation from such courses. All others should present specific statements of the work completed before graduation with the above as the minimum amount.

Colleges now having such courses or announcing the intention of establishing them are:

Coe College;
Des Moines College;
Iowa College;
Simpson College;
Western College;
University of S. Dakota.

Students entering under these conditions at the end of their first year must pass examinations in all branches of the freshman year not previously pursued by them. They must also have completed the work required of the sophomore class in the dissection of the human subject.

Graduates of non-homeopathic medical colleges may be admitted as graduate students, as follows: If an *ad eundem* degree is sought they must matriculate in the university, pay the regular fee, and pass an examination in the therapeutics of the branches taught in this college. If a degree is not sought, a matriculation fee is to be paid, and such laboratory expenses as may be necessary, together with a lecture fee, if a full course is taken.

Alumni of this school will be admitted to all lectures and clinics free of charge, but if regular attendants they must be registered as graduate students.

By order of the board of regents no student will be enrolled until all necessary fees have been paid.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF ANATOMY

PROFESSOR HARRIMAN; DR. MULLIN, MR. JONES, MR. FOX

The courses in Anatomy are described above, pages 334-335.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR MCCLINTOCK; MR. BAILEY, MR. KLEINSORGE

The courses in Physiology are described above, pages 335-338.

DEPARTMENT OF CHEMISTRY AND TOXICOLOGY

PROFESSOR ROCKWOOD; ASSISTANT PROFESSOR BARLOW, DR. BONNET, JR., MR. GOODWIN

The courses in Chemistry and Toxicology are described above, pages 338-340.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS; MR. HOOVER, MR. BLYTHE, MR. STARBUCK, MR. BOOTS

The courses in Histology and Embryology are described above, pages 341-343.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

PROFESSOR ALBERT; DR. LAMBERT, DR. KRAUSE, MR. BYRNES, MR. ALBERT

The courses in Pathology and Bacteriology are described above, pages 346-350.

MEDICAL JURISPRUDENCE

MILTON REMLEY

The course in Medical Jurisprudence is described above, page 358.

INSANITY

DR. HILL

The course in Insanity is described above, page 358.

HYGIENE

DR. CLARK

The course in Hygiene is described above, page 358.

DENTISTRY

The lectures on this subject comprise such principles of dental pathology and therapeutics as are essential to the practitioner of medicine. Instruction is given in the application of mechanical appliances for the correction of cleft palate, also in methods of applying retention in fractures of maxilla. Junior year, second semester, five hours. Dr. ROGERS.

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

PROFESSOR ROYAL; DR. STRUBLE

The work of this department is graded and extends over the entire course of four years.

1. FRESHMAN YEAR—During the first semester one hour each week is devoted to the study of the organon. During the second semester one hour each week on Institutes and the Principles of Homeopathic Medicine. Professor ROYAL.

One hour each week during the entire year is devoted to the study of drugs. Special attention is given to the study of their action on the different tissues of the body. Dr. STRUBLE.

An examination will be held in these branches at the end of each semester. Text books: Hahnemann's Organon, Dewey's Essentials of Materia Medica, Nash's Leaders.

2. SOPHOMORE YEAR—Two hours each week during the entire year will be devoted to the study of the characteristic

symptoms of the Polycrests. Every effort will be made to impress on the student's mind, by lectures and quizzes, the individuality of each drug presented. An examination will be held at the end of the year. Dr. STRUBLE.

3. JUNIOR YEAR—Three hours each week, besides one clinical lecture. The characteristic symptoms of each drug are reviewed and the concomitant symptoms are grouped about these characteristics so as to classify them for therapeutic use. The remedies are divided into two groups, one of which is considered each year.* Professor ROYAL.

4. SENIOR YEAR—The seniors will have three hours each week in connection with the juniors, the work being the same as outlined above. At the clinic each senior will be repeatedly called upon to obtain from the patient the history of the case and the symptoms for therapeutic purposes. One additional hour each week will be devoted to the comparison of the symptoms of the different drugs belonging to the same class; during this hour instruction will be given in the use of repertories. Professor ROYAL.

Textbooks: Farrington's Clinical Materia Medica, Cowperthwaite's Materia Medica, Allen's Hand Book, and Lilienthal's Therapeutics.

DEPARTMENT OF THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE

PROFESSOR JOHNSTON; DR. MOORHEAD

The work of this department is arranged to cover the ground with which the physician should be familiar in a complete and modern manner.

As noted elsewhere in this announcement a full laboratory course is given during the sophomore year.

It is expected that the major part of the didactic work will be completed in the junior year.

The senior year is thus left free for practical application of the preceding year's studies in the clinics, hospital, dispensary, and out-patient department.

The system of instruction used is a combination of the lecture and recitation methods. A printed syllabus giving the salient points of the subject under discussion is furnished each student.

*Vegetables will be considered in 1904 and 1905.

The following courses are offered:

1. PHYSICAL DIAGNOSIS—The principles of physical diagnosis; training in eliciting physical signs. Study of the normal subject.

One hour each week during the sophomore year. Professor JOHNSTON.

2. DISEASES OF THE CHEST—Instruction in this subject is given for the most part by the clinical lectures. One hour each week during the junior year is devoted to the study of etiology, symptomatology, diagnosis, and treatment. The senior student is required to make and defend his own diagnosis. His fitness for graduation is determined by his proficiency at the bedside. Professor JOHNSTON.

3. DISEASES OF THE KIDNEYS AND BLOOD—Following the work in the laboratory of the sophomore year, there will be a course of lectures during the junior year, and clinical diagnosis with examination of urine and blood in the senior year. Professor JOHNSTON.

4. INFECTIOUS DISEASES are taken up during the junior year, special attention being given to differential diagnosis. Students are taken in regular order to examine cases in the vicinity, and so come in direct contact with patients suffering from this important class of diseases. One hour each week. Dr. MOORHEAD.

5. DISEASES OF THE DIGESTIVE TRACT—One hour each week during the junior year. Clinical demonstration with practice in lavage and analysis of stomach contents during the senior year. Professor JOHNSTON.

6. DISEASES OF THE NERVOUS SYSTEM—A course of lectures illustrated by charts and specimens from the pathological laboratory, supplemented by clinical instruction. One hour each week during the senior year. Professor JOHNSTON.

9. MEDICAL DIAGNOSIS—A course reviewing the whole field previously gone over, but approaching the subject from the standpoint of the individual symptom and its possible significance in building up a diagnosis. Last semester, senior year. Professor JOHNSTON.

10. HYDROTHERAPY AND MANUAL THERAPEUTICS—A course of lectures upon the principles underlying these allied methods of cure with actual demonstration sufficient to enable

the graduate to prescribe them intelligently. Professor JOHNSTON.

TEXT BOOKS: Cowperthwaite's *Practice*, Arndt's *Practice*, Goodno's *Practice*, Raue's *Special Pathology and Therapeutic Hints*, Talcot's *Mental and Nervous Diseases*, O'Connor's *Nervous Diseases*, Loomis' *Physical Diagnosis*, Bartlett's *Principles of Diagnosis*.

REFERENCE—Osler's *Practice*, Anders' *Practice*.

DERMATOLOGY

One hour a week throughout the senior year will be devoted to the study of the skin, its nature, structure, functions, diseases and treatment, including also drug eruptions and their relation to the pathologinal features of skin diseases.

The instruction in this branch is both didactic and clinical, patients being assigned to members of the class for examinations, diagnosis, and treatment.

The lectures are illustrated by large colored plates and supplemented by quizzes and recitations. Dr. MOORHEAD.

Text-books: Kippax's *Diseases of the Skin*, Dearborn's *Diseases of the Skin*.

For reference: Piffard's *Diseases of the Skin*, Hyde *On the Skin*, American Text-Book.

DEPARTMENT OF SURGERY

PROFESSOR GILCHRIST; DR. PECK, DR. JOHNSTON

FRESHMEN:—Work for this year will be abandoned, for the coming session.

SOPHOMORES—In this year a comprehensive course of instruction in *minor surgery* will be given, including bandaging, surgical dressings of all kinds, both temporary and permanent; care of instruments, minor surgical operations, and catheterizations. This will be followed by a course of instruction in aseptic technique, and another on surgical anesthesia. One hour a week, in first semester by Dr. PECK, and additional hour weekly, for the first term, by Dr. JOHNSTON.

Text-book: Martin's *Minor Surgery*.

In the second semester the class will attend exercises with the junior class, as far as the study of fractures and dislocations is concerned, this subject being of such a character, and of such

vast practical value that it is thought best to carry on this instruction through two years. Professor GILCHRIST.

Text-book: Hamilton (or Stinson) on *Fractures and Dislocations*. Attendance on clinics is required in this year.

JUNIORS—A thorough course on emergency surgery will be given in this year, two hours a week, throughout the year. The topics discussed will be such as shock, hemorrhage, effects of heat and cold, contusions and wounds, regional traumatisms, and fractures and dislocations. Professor GILCHRIST.

Text-books as above, and any standard modern text-book,

SENIORS—Two hours a week will be given to surgical pathology, throughout the year, surgical conditions of the various regions of the body, and the discussion of rather special character. The attempt will be made to carry the work along consecutive and systematic lines, giving large attention to therapeutics other than surgical, particularly those homeopathic in character.

Operative Surgery will be taught, didactically, in the first semester, work on the cadaver following in the second semester. The first part of this course will deal more particularly, with the principles underlying the surgical art, and later such operative procedures as are commonly made will be done by the student, on the cadaver. The clinical lectures are designed to be an essential part of this course, for which reason attendance on all clinics, general and special, is obligatory. Professor GILCHRIST.

Text-book: Gilchrist's *Elements of Surgical Pathology*, *the American Text-Book of Surgery*, or any modern text-book on general surgery.

Students in this year will be required to write a thesis, on some assigned topic, and defend the same at meetings of the seminary.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

PROFESSOR BECKER; DR. HAZARD

During the last four years the department of obstetrics has been supplied with a sufficient number of clinical patients to afford each senior student the advantage of witnessing and assisting at three deliveries. The presence of the patients at the hospital several weeks before confinement has given the added

advantage of studying the symptoms and signs of pregnancy as well as the foetal heart sounds in connection with the same.

In the department of gynecology the didactic work is combined with clinical in such a manner as to give the students all the advantages of the bedside treatment of this important department of medicine.

The medical as well as surgical treatment of the diseases of women receive attention and the senior students are given every opportunity to familiarize themselves with gynecological technique.

JUNIOR YEAR—This year is devoted to a review of the anatomy of the pelvis and generative organs and their physiological functions; the physiology of ovulation and gestation; the changes in the maternal organism due to pregnancy; the diagnosis and hygiene of pregnancy, and the management of normal labor.

SENIOR YEAR—During this year special attention is given to the pathological conditions of pregnancy; the causes and management of abortion and premature labor; the diagnosis and management of the various fœtal presentations; the methods of performing version; the use of the obstetrical forceps and the management of the puerperium and its pathological conditions.

During the second semester a practical course in the diagnosis and management of the various fœtal presentations will be given.

Text-books: Leavitt, *American Text-Book of Obstetrics*, Guernsey, Lusk.

GYNECOLOGY

JUNIOR YEAR—During this year one hour each week is devoted to abnormalities in the development and functions of the sexual organs, including puberty, menstruation with its various pathological conditions and the climacteric and inflammatory and other diseases usually coming under the head of medical gynecology.

Text-books: Wood, Mintous Uterine Therapeutics, Southwick.

SENIOR YEAR—During this year one hour each week is devoted to the study of the injuries of the genital tract, their results, treatment, and repair, displacements and their correction and neoplasms of the genital tract, their results and treatment, nd repair. Professor BECKER.

Text-books: Skene, *American Text-Book of Gynecology*, Kelley's *Operative Gynecology*.

During the first semester of the senior year instruction will be given regarding the new-born infant, its care in health and in the accidents and diseases incident to birth. Dr. HAZARD.

PEDOLOGY

DR. HAZARD

SENIOR YEAR—One lecture each week during the year will be given on this subject. After treating of those conditions of the infant pertaining to the department of obstetrics the subject of nutrition will be considered, especial attention being given to infant foods and feeding, and the diseases of malnutrition. Following this the other diseases of children will be discussed and the whole supplemented by clinical illustration.

Text books: Fisher, Tooker, Raue.

DEPARTMENT OF OPHTHALMOLOGY, OTOLOGY, RHINOLOGY, AND LARYNGOLOGY

PROFESSOR BYWATER

In this department all diseases of the eye, ear, nose, and throat are considered. For the practical study, there has been recently provided a commodious dark-room, well supplied with all the necessary apparatus. Here patients are treated by the students under the supervision of the head of the department or competent assistants. After the patient has been carefully and thoroughly examined in the clinic and the treatment outlined, he is put in charge of a student, who assists in the treatment, watching the progress of the case until the patient is discharged. In this way practical and valuable experience is gained. The student not only becomes familiar with the diseased conditions by being required to make diagnoses, but he also becomes acquainted with the use of the instruments used in the diagnosis and treatment of cases coming under this department.

The clinics are large, and there is sufficient clinical material, so that the students have an opportunity of seeing operations on a large variety of eye, ear, nose, and throat cases.

OPHTHALMOLOGY

SENIORS AND JUNIORS — Didactic lectures and recitations are given on the anatomy and physiology of the eye, diseases of the orbit and lachrymal apparatus, conjunctiva, schlera cornea, and extrinsis muscles. One hour each week during the first semester.

Lectures and recitations on the internal diseases of the eye, including those of the ciliary body, iris, retina, choroid, optic nerve, lens, and vitreous body. Eye-strains, due to errors of refractions are also considered. One hour each week during the second semester.

SENIORS, JUNIORS AND SOPHOMORES—Clinics two hours each week during the year. Cases are assigned to students for examination, diagnosis, and treatment.

OTOLOGY

SENIORS AND JUNIORS—Lectures and recitations on the anatomy and physiology of the ear. All pathological conditions of the external, middle, and internal ears, and of the mastoid process are considered. One hour each week during the first semester.

SENIORS, JUNIORS AND SOPHOMORES — Attendance upon clinics two hours each week is required. This is held in connection with the general eye, ear, nose and throat clinic.

RHINOLOGY AND LARYNGOLOGY

SENIORS AND JUNIORS — Lectures on the anatomy and physiology of the nose, throat, and all accessory sinuses. Consideration of diseases of the nose, naso-pharynx, larynx, frontal sinuses, antrum, ethmoid cells, etc. One hour each week during the second semester.

SENIORS, JUNIORS AND SOPHOMORES—Clinics two hours each week during the year in connection with the general clinic.

SENIORS—Subclinic one hour each week during the year.

Use of Ophthalmoscope, Laryngoscope, Rhinoscope, etc.

The seniors are given practical instruction in the use of instruments employed in diagnoses of pathological conditions of the eye, ear, nose, and throat at stated periods throughout the year. The class is divided into sections for this work.

Text-books: *Eye*, Norton, Buffum, MacBride, Noyes; *Ear*,

Winslow, Houghton, Hallett, and Dench; *Nose and Throat,* Ivins, Veshlage, Quay, Kyle and Bishop.

CLINICS

SURGICAL CLINIC

The surgical clinic of this college is open to students of all the classes. but attendance is not obligatory in the freshman year. There is an abundance of clinical material. The general arrangement and clinical system are as follows: Senior Interne at the commencement of the year details two students from the senior class as clinical assistants. One of these retires after one week's service, one after two weeks. One student is detailed each week thereafter so that each senior student has two consecutive weeks of clinical work. The duties are to assist at all clinics and sub-clinics, and to attend to all dressings in the hospital, uuder the supervision of the senior interne. This gives unusual facilities for practical instruction.

The surgical clinic is held on Saturday at 9:30 A. M. Professor GILCHRIST.

MEDICAL CLINIC

The medical clinic is open to all classes and regular attendance in required of juniors and seniors.

The first consideration in conducting this clinic is to give the student training in diagnosis and the plan adopted gives the senior student advantages equivalent to a post graduate course.

New cases as received are placed in charge of members of the senior class for examination.

A complete diagnosis must be made in writing, after which the patient is examined in open clinic and a criticism of the papers follows:

These papers are preserved and constitute an important factor in determining the student's standing.

Sub-classes under guidance of an instructor visit the homes of out-patients for the study of acute disease.

The treatment prescribed is in accordance with the established principles of homeopathy.

This clinic is held on Wednesday afternoon from two to four o'clock. Professor JOHNSTON.

MATERIA MEDICA CLINIC

The professor of materia medica will hold a clinic every Thursday from 2 to 4 P. M. At this clinic a member of the senior class is requested to elicit from the patient the family and personal history; the sensations; the modalities and all concomitant symptoms. He is then required to arrange these symptoms, point out the characteristic ones and suggest a remedy. The other members of the class are also required to suggest a remedy giving their reasons for so doing from the group of symytoms which has been elicited by their classmate. The professor in charge will then differentiate between the remedies presented by the class, if there be more than one, and will determine the remedy to be administered. Professor ROYAL.

GYNECOLOGICAL CLINIC

During the senior and the junior years two hours each week are devoted to clinics at which the students are given special advantages in the examination and diagnosis of the various diseases and injuries of the genital organs of women and assist at the various operations. The addition of this clinic to the course of instruction is of great advantage to the number of students admitted to he same is limited so as to give all present an opportunity of seeing each step in the work and thereby becoming entirely familiar with the same. Friday from 2 to 4 P. M. Professor BECKER.

OBSTETRICAL CLINIC

Bp special appointment obstetrical clinics are held at which senior students are given an opportunity of diagnosing the foetal presentations and observing the mechanism and conduct of the various stages of labor. By special arrangement with the board of regents patients wanting a home prior to their confinment and proper medical attendance during the same may avail themselves of this clinic free of charge and at the same time be given all of the privacy and comforts of the homes usually provided for this special class of cases.

Any one desiring information regarding the same is asked to correspond with the professor in charge. Professor BECKER.

EYE, EAR, NOSE, AND THROAT CLINIC

In these clinics many cases are treated each year. Each member of the senior class is given many opportunities to ex-

amine patients, diagnose pathological conditions, and outline the treatment. The general clinics are held on Tuesday afternoon at one o'clock, during the school year, in the amphitheater.

Subclinics for ear, nose, and throat cases are held on Friday at three o'clock in the basement clinic-room. Professor BYWATER.

PEDOLOGY

Children's clinics will be held on Monday. At these clinics the seniors are expected to examine the patients, diagnose the diseases, prescribe the proper remedies and familiarize themselves with the treatment of this class of patients which will constitute a large and important part of their future practice. Dr. HAZARD.

ADMISSION OF PATIENTS

Medical and surgical treatment are free for patients entering the general clinic. Hospital care is furnished for $5.00 to $20.00 per week.

Correspondence with reference to admission to the clinics or hospital should be had with the professor having charge of the particular clinic, or with the director of the hospital. Arrangements can be made for the reception of a limited number of obstetrical cases *only* between the 15th of September and the 15th of April.

DISPENSARY

In connection with the clinic a dispensary has been opened, where the clinical assistants, under the direction of the faculty, prescribe for and visit out-patients, and attend such cases of obstetrics as apply. The dispensary is growing in patronage and influence, and has become a highly important and profitable portion of work, affording at once material for the clinics and practical instruction to the attendant.

REQUIREMENTS FOR GRADUATION

1. The candidates must be twenty-one years of age.
2. Moral character must be known to be unexceptionable.
3. The time of study must include attendance upon at least four full courses of lectures, the last of which must be taken in this institution. The time occupied by each of the four courses of lectures shall be not less than thirty-nine weeks, and no two of the four courses shall be within the same year.

4. The deportment during the term must have been unexceptionable.

5. Attendance upon all lectures, clinics, and other instruction in the course must have been in accordance with the requirements of the college.

In case of failure to pass any of the examinations the student may be re-examined at the opening of the next session. If he fail in this second examination he will be allowed to present himself for re-examination only after attendance upon another course of lectures.

Students of the senior class who are candidates for the degree of Doctor of Medicine must, before May first, present to the secretary of the faculty a certificate of legal age and of good moral character, also the receipts from the treasurer of the board of regents showing that all fees have been paid.

TUITION FEES

Every student before entering any department of the university is required to pay a matriculation fee of ten dollars. This fee is required the first year only.

The tuition charges in the college of homeopathic medicine are twenty-five dollars a semester, and are due at the opening of each semester. A student registered in more than one college of the university is required to pay the tuition of the college having the higher or highest rate of tuition of the colleges in which he is registered, and is then granted free tuition in any other college of the university. Thus students taking the combined liberal arts and medical course pay the liberal arts tuition of ten dollars a semester while they are taking work in that college only, but as soon as they take up the work in the college of medicine they are required to pay the regular tuition of the medical college and are granted free tuition in the college of liberal arts.

For all honorably discharged soldiers or sailors of the Spanish American war, who are taking a full course in this college there is an annual remission of twenty dollars from the above tuition fees.

There are no extra fees whatever, but for each laboratory course in chemistry there is required a deposit of $3 to cover breakage and to insure the return of all keys at the close of the

session. This sum (breakage, if any, deducted) is returned to the student.

The above statement is now in effect and will be understood to apply to all students irrespective of date of matriculation.

COMPARATIVE STATEMENT OF STUDENT'S EXPENSES FOR THE ACADEMIC YEAR, SEPTEMBER TO JUNE

	LOW	AVERAGE	LIBERAL
Matriculation Fee (first year only)....	$ 10.00	$ 10.00	$ 10.00
Tuition Fee.....	*50.00	50.00	50.00
Board (36 weeks).....	63.00	99.00	126.00
Room, heated and lighted, (one-half)..	36.00	45.00	54.00
	$ 159.00	$ 204.00	$ 240.00

The above estimates do not include such incidentals as books, clothing, laundry or membership in societies, some of which are luxuries, and all of which vary greatly with the means and habits of the individual students.

HOMEOPATHIC ALUMNI ASSOCIATION

The Alumni Association held its twelfth annual meeting at the college building, April 1, 1903, at which time the following officers were elected:

President—F. J. Becker, M. D., Iowa City.
Vice President—C. M. Morford, M. D., Toledo.
Secretary—Clara M. Hazard, M. D., Iowa City.
Treasurer—W. H. Woltman, M. D., Iowa City.
Executive Committee — PRESIDENT, SECRETARY and TREASURER.

Alumni are urged to send their names to the secretary to be enrolled as members. A small admission fee is required, the funds so procured to be devoted to the hospital according to a vote taken at the last meeting. Alumni are requested to keep the secretary informed of change of address.

Any further information may be obtained by addressing Geo. E. MacLean, Ph. D., LL. D., President of the University,

or W. L. Bywater, M. D., Secretary of the Homeopathic Medical Faculty, at Iowa City, Iowa, or George Royal, M. D., Dean of the College, at Des Moines, Iowa.

COURSE OF INSTRUCTION

First Year.

Histology
Physiology
Anatomy
Chemistry—organic and analysis
Organon
Homeopathic pharmacy
Materia medica
Minor surgery

Second Year.

Physiology
Anatomy
Physiological chemistry
Pathology
Materia medica
Physical diagnosis
Surgical emergencies

Third Year.

Toxicology
Rhinology and laryngology
Surgical emergencies, continued
Principles and practice of surgery
Theory and practice of medicine
Bacteriology
Obstetrics
Gynecology
Dermatology
Materia medica
Genito urinary diseases.

Fourth Year.

Pedology
Ophthalmology and otology
Materia medica and therapeutics
Obstetrics—continued
Gynecology—continued
Principles and practice of surgery—continued
Theory and practice of medicine—continued
Medical jurisprudence
Insanity
Electricity
Venereal diseases.

SCHOOL FOR NURSES

A training school for nurses has been established by the board of regents, the complete course covering three years. The first year is devoted to preliminary studies fitting the pupil for the active work, that is, as nurses in the hospital. Candidates for admission to the training school must be not under twenty nor over thirty-five years of age, must have a common school education, and must make a written application to the superintendent on forms prepared for the purpose and furnished on application. No other examination is required. If admitted, their first month will be probationary, and if the work has been satisfactory they will be entered upon the roll as "freshman nurses," and receive $5.00 a month for personal expenses, together with board, lodging and laundry. Vacations are given, during the year, at least, one month out of twelve, with additional vacation at the discretion of the superintendent. On admission the pupil will be required to agree in writing, over signature, to observe the rules and regulations of the hospital. The instruction during this year is largely didactic in a carefully arranged course of lectures. Examinations for promotion to the junior year will be held in May. During the junior or second year in addition to their practical work, the nurses will have one recitation each week, and in the third year special topics for essays will be arranged. During the second year the nurses will receive $8 a month for personal expenses, with an increase to $10 for the third year. Those who complete the three years course will receive a suitable certificate signed by the president of the university and by the secretary of the board of regents. The graduating exercises occur in connection with those of the university. For further information address the Superintendent, Homeopathic Hospital of the University.

Specimen Programme of the College of Homeopathic Medicine, State University of Iowa, 1903–1904

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physi'logy	Histology	Physi'logy	Histology	Histology Recitation	Anatomy
9 to 10	Chemistry	Physi'logy	Chemistry	Anatomy	Histology	Minor Surgery
10 to 11	Anatomy	Anatomy	10:00 to 12:00 *Chemical Laboratory*	Organon	Chemistry	
11 to 12						
1 to 2	1:00 to 3:00 *Histologic'l Laboratory*	1:00 to 3:00 *Chemical Laboratory*		1:00 to 3:00 *Histol'gical Laboratory*	Materia Medica	
2 to 3						
3 to 4	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	
4 to 5	*Anatomical Laboratory*	*Anotomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

SOPHOMORE YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physical Diagnosis	Anatomy		Pathology	Anaesthesia	
9 to 10	Pathology Recitation	Physiological Chemistry	Physi'logy	Physi'logy	Physiological Chemistry	
10 to 11	Physi'logy Recitation	Surgery	Anatomy	Anatomy	Anatomy	9:30 to 12:00 Surgical Clinic
11 to 12	Surgery			Materia Medica		
1 to 2	1:00 to 3:00 *Physiological Chemical Laboratory*	1:00 to 3:00 *Pathological Laboratory*	1:00 to 3:00 *Physiological Laboratory*		Materia Medica	
2 to 3					Materia Medica Recitation	
3 to 4	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	
4 to 5	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Otology	Surgery	Ophthal-mology	Materia Medica	Pathology	
9 to 10	Practice		Practice		Surgery	
10 to 11	Gynec'l'gy	Surgery		Pathology	Practice	9:30 to 12:00 *Surgical Clinic*
11 to 12	Surgery	Obstetrics	Toxicol'gy	Materia Medica	Pathology Recitation	
1 to 2	1:00 to 3:00 *Pathol'gic'l Laboratory*	*Eye, Ear, Nose and Throat Clinic*	Materia Medica			
2 to 3			*Medical Clinic*	*Materia Medica Clinic*	*Gynecological Clinic*	
3 to 4	Surgery	Practice				
4 to 5				*Ear, Nose and Throat Clinic*		

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Otology	Surgery	Ophthal-mology	Materia Medica		
9 to 10	Practice		Practice	Materia Medica	Dermatol-ogy	
10 to 11	Pedology	Surgery	Clinical Micro-scopy		Surgery	9:30 to 12:00 *Surgical Clinic*
11 to 12	Surgery			Obstetrics		
1 to 2	Gynec'l'gy	Eye, Ear, Nose and Throat Clinic	Materia Medica			
2 to 3	Surgery		*Medical Clinic*	*Materia Medica Clinic*	*Gynecological Clinic*	
3 to 4	Surgery	Practice				
4 to 5					*Ear, Nose and Throat Clinic*	

THE COLLLGE OF DENTISTRY

COLLEGE OF DENTISTRY

MEMBERS OF THE FACULTY AND OTHER OFFICERS

GEORGE EDWIN MACLEAN, M. A., B. D., PH. D., LL. D.,
President of the University.

FRANK THOMAS BREENE, M. D., D. D. S.,
Professor of Operative Dentistry, and Therapeutics.

WILLIAM S. HOSFORD, B. A., D. D. S.,
Professor of Prosthetic Dentistry, Crown and Bridge Work, and Dean of the Faculty.

ERNEST A. ROGERS, D. D. S.,
Professor of Dental and Regional Anatomy, and Superintendent of Clinics.

WILLIAM J. BRADY, D. D. S.,
Professor of Orthodontia, and Demonstrator of Dental Technology.

ELBERT WILLIAM ROCKWOOD, B. S., M. A., M. D.,
Professor of Chemistry and Metallurgy.

HENRY ALBERT, B. S., M. S., M. D.,
Professor of Pathology and Bacteriology.

CHARLES SUMNER CHASE, B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology.

*JOHN W. HARRIMAN, M. D.,
Professor of Anatomy.

JOHN T. MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

GEORGE V. I. BROWN, M. B., M. D., D. D. S., C. M.,
Professor of Dental Pathology and Oral Surgery.

WILLIAM EDWARD BARLOW, B. A., M. A., PH. D.,
Assistant Professor of Chemistry.

FREDERIC BONNETT, JR., B. S., M. S., PH., D.,
Assistant Professor of Chemistry.

CHARLES CLEVELAND NUTTING, B. A., M. A.,
Lecturer on Comparative Odontography.

*Died January 25, 1904.

JAMES FREDERICK CLARKE, B. A., M. A., M. D.,
Lecturer on General Hygiene.

CHARLES NOBLE GREGORY, B. S., M. A., LL. B., LL. D.,
Lecturer on Dental Jurisprudence.

HENRY MORROW, JR., D. D. S.,
Clinical Demonstrator and Demonstrator of Dental Technology.

ROSCOE H. VOLLAND, D, D. S.,
Clinical Demonstrator.

BERTON ALONZO SMALL, D. D. S.,
Demonstrator of Operative Technics and Clinical Dentistry.

WILFIE ABRAHAM SUTHERS, D. D. S.,
Clinical Demonstrator.

HOWARD HERMAN QUAIFE, D. D. S.,
Assistant Demonstrator in Clinical Dentistry.

CALVIN WALDO HARNED, D. D. S.,
Assistant Demonstrator in Prosthetic Dentistry.

WALTER EDWARD KEEHL, D. D. S.,
Assistant Demonstrator of Dental Technology and Clinical Dentistry.

JOHN PATRICK MULLIN, M. D.,
Demonstrator of Anatomy.

CHARLES IRWIN LAMBERT, B. S., M. S., M. D.,
Instructor in Pathology and Bacteriology.

FREDERICK WILLIAM BAILEY, B. S.,
Assistant Instructor in Physiology.

ALDEN ROBBINS HOOVER, B. S.,
Assistant Instructor in Histology and Embryology.

PAUL SCHUTZ KRAUSE, B. S.,
Fellow in Pathology and Bacteriology.

JAMES GARDNER GOODWIN., B. S.,
Fellow in Chemistry.

RALPH LEONIDAS BYRNES, B. S.,
Scholar in Pathology.

ADELBERT W. STARBUCK, D. D. S.,
Assistant in Histology.

EDWARD ELLSWORTH BLYTHE, B. PH.,
Undergraduate Assistant in Histology.

FRED ALBERT, JR., B. PH.,
Laboratory Assistant in Pathology.

HERBERT PEASE,
Undergraduate Assistant in Histology.

FREDERICK WARNER BOOTS
Undergraduate Assistant in Histology.

RUDOLPH ERNST KLEINSORGE,
Assistant in Physiology.

HENRY J. JONES,
Senior Assistant in Anatomy.

WALTER H. FOX,
Junior Assistant in Anatomy.

ARTHUR DANIEL WOODS,
Prosector in Anatomy.

OSCAR HAWKINSON,
Prosector in Anatomy.

W. M. VERMILLION,
Custodian.

HELEN BASCHNAGEL,
Clerk.

CLARISSA JOY,
Assistant Clerk.

THE COLLEGE OF DENTISTRY

The course of instruction offered in the college of dentistry is based upon broad and liberal ideas concerning the place of dentistry among the healing arts and the position the dentist should occupy in both the scientific and the practical worlds. The fundamental studies of medicine are combined with those of dentistry proper, thus giving the basis for a broad education and for further medical and surgical attainments by postgraduate study.

The practical study of dentistry is amply provided for, the faculty realizing that no amount of purely theoretical attainments can take the place of ability to perform practical work in the world. The course of study is thus divided between scientific, mechanical, and artistic considerations so that each receives its just share of time and attention.

The method of instruction is by lectures, demonstrations recitations, and the actual performance of both laboratory and clinical work by the student himself under the supervision of experienced demonstrators. A systematic and thorough preliminary training is given through the technic work of the laboratories, thus fitting the student as far as possible for the practical work of the infirmary. The clinical material is abundant and of exceptional quality, being composed of clean and intelligent patients and affording opportunity for every variety of work, especially of the higher grades.

The college of dentistry is a member of the National Association of Dental Faculties, and abides by all its rules and regulations. The college also observes all the requirements of the National Association of Dental Examiners. The diploma of the college of dentistry is legally recognized in every state of the United States, and in every foreign country where an American diploma confers any legal rights or privileges.

The course of study extends through four years of thirty-six weeks each, the years being divided into two semesters of

eighteen weeks each, and each semester into two terms of nine weeks. The twenty-fourth annual session begins September 22, 1904, and ends June 14, 1905.

All students regularly matriculated and in actual attendance at any reputable dental college before the middle of the session of 1902-1903, are entitled to be classified according to the three year course; all those entering any such college later, must attend four full years before graduation.

BUILDINGS AND EQUIPMENT

The college of dentistry was organized and held its first session in 1881. The growing importance of the department led to the erection in 1894 of a building for its exclusive use. These quarters have been most excellently equipped for teaching and are unsurpassed in convenience. Each student has his own locker and table in the laboratories, his seat in the lecture rooms, and his chair and cabinet in the clinic rooms, which are reserved for him throughout the entire year.

The laboratories are well lighted, each table having a large window. All the usual appliances are provided, including electric lathes for polishing.

The lecture rooms are commodious, well lighted and ventilated, and comfortably seated.

The operating rooms are exceptionally well lighted, and equipped throughout with Wilkerson and Columbia chairs, each chair being provided with fountain spittoon and a Harvard cabinet for instruments. Each chair is provided with an overhead electric light for use on dark days.

The growing importance of porcelain work has been recognized by the installation of a number of electric furnaces for porcelain baking, and this branch of practice receives special attention. Other electric apparatus, such as cautery instruments, root drier, mouth lamp, gold, annealus, etc., have been added to the equipment.

A special department of the general library is maintained in the building, and is accessible at all times. Students also have all the privileges of the general university library.

The college is equipped with a Colt & Co.'s electric stereopticon, which is a valuable addition to the teaching equipment.

REQUIREMENTS FOR ADMISSION

Extract from Code of Rules of the National Association of Dental Faculties Regulating the Admission of Students.

PRELIMINARY EXAMINATION

1. The following preliminary examination shall be required of students seeking admission to colleges of this association:

The minimum preliminary educational requirement of colleges of this association, beginning with the session of 1902-1903, shall be a certificate of entrance into the third year of a high school, or its equivalent. The preliminary examination is placed in the hands of the State Superintendent of Public Instruction, or his appointee, Mr. H. C. Dorcas, University Examiner.

Each applicant for admission must present satisfactory evidence of good moral character. Students of both sexes are admitted on equal terms.

Graduates or matriculates of reputable universities or colleges, and graduates of state normal schools or accredited high schools and academies, may be admitted without examination to the first year class on presentation of diplomas or certificates of honorable dismissal.

Graduates of other high schools or academies whose courses of study are approved by the university, or pupils who have completed *at least two (2) years* of work in such schools or in accredited schools, will be admitted without examination on presenting certificates, signed by the superintendent or the principal, and containing specific statements as to the amount of work done in each study. Two years of work must include *sixteen (16)* preparatory credits, *a preparatory credit being defined as the equivalent of one high school study five days a week during a semester, eighteen weeks in length, on the basis of four studies a day.* These preparatory credits must be certified by the superintendent or the principal of the school from which the applicant comes. A blank form can be obtained by addressing the president of the university, the dean of the college of dentistry or the university examiner.

Students must enter the college within ten days of the opening date, September 22, to receive credit for a full year's

attendance, as provided by the rules. An exception is made in case of sickness. See rules following:

LIMITING THE TIME FOR THE RECEPTION OF STUDENTS

2. No member of this association shall give credit for a full course to students admitted later than ten days after the opening day of the session, as published in the announcement.

3. In case one is prevented by sickness, properly certified to by a reputable practicing physician, from complying with the foregoing rule, the time of admission shall not be later than twenty days from the opening day.

4. That students in attendance at colleges of this Association, to obtain credit for a full term, must be and remain in attendance until the close of the session.

Students from other reputable dental colleges, students from colleges in foreign countries, and graduates in medicine may be received into advanced classes, subject to the following rules of the National Association of Dental Faculties, and the rules of the faculty of the college of dentistry.

ADMISSION TO ADVANCED GRADES ON CERTIFICATES

The colleges of this Association may receive into the advanced grades of juniors and seniors only such students as hold certificates of having passed examinations in the studies of the freshman or junior grades respectively. All students who have successfully passed their examinations for advanced standing shall have their certificates given or mailed to them within *thirty days* after such examinations shall have been completed. Such certificates to be pledges to any college of the Association to whom the holders may apply, that the requisite number of terms have been spent in the institutions by which the certificates were issued.

STANDING OF STUDENTS HOLDING CERTIFICATES FROM DENTAL COLLEGES IN FOREIGN COUNTRIES

In case of persons holding certificates from colleges of dentistry in foreign countries, they shall be required to furnish properly attested evidence of study, attendance upon lectures, examinations passed satisfactorily, etc., just as is required of students coming from our own institutions.

ADVANCED STANDING AND ADMISSION OF GRADUATES OF MEDICINE

Advanced standing in the classes of members of this Association shall not be given students except in the following instances:—

First. Where students shall have taken a full course in a school a member of this Association, or one especially recognized, and shall have successfully passed the required examinations.

Second. When the student shall present evidence of graduation from a reputable medical college, he may receive one year's advanced standing.

A graduate of a recognized dental college, who applies to a college of this Association for the degree of Doctor of Dental Surgery or Doctor of Dental Medicine, shall complete one full course of instruction in said college and comply with all other requirements of the senior class.

All other applicants for admission must *pass examinations* in the subjects designated in the programmes of entrance examinations given below, or other subjects which are real equivalents.

Applicants presenting certificates from accredited schools for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

It is urged that anyone expecting to enter the college of dentistry next September send all necessary credentials to the university examiner *as early in the summer as possible, and certainly before September 1*. If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean for signature.

ENTRANCE EXAMINATIONS

Any person expecting to enter the college of dentistry next September, should be careful to learn before the opening of the university exactly what entrance examination he will be required to pass. He can learn this by addressing the president of the university, the dean of the college of dentistry, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first exam-*

ination as indicated in the programmes given below. He should present himself at once at the office of the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the university. For *a series* of examinations covering two or more subjects, a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Tuesday, September 20 and Wednesday, September 21, 1904

Arthmetic,	1 credit,	Monday	1:30 p. m.
English and Eng. Grammar	2 credits,	Tuesday	4:30 p. m.
United States history,	1 credit,	Tuesday,	1:30 p. m.
Civil government,	1 credit,	Tuesday,	2:30 p. m.
Algebra, through quadratics	3 credits,	Wednesday,	8:00 a. m.
Physical geography,	1 credit,	Wednesday,	11:00 a. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.
Physiology,	1 credit,	Wednesday,	4:00 p. m.

SECOND SEMESTER

Friday, February 10 and Saturday, February 11, 1905

The examinations will be held at the same hours as in the programme above, reading Friday and Saturday for Tuesday and Wednesday, respectively.

COMBINED COURSES LEADING TO DEGREES IN DENTISTRY AND IN SCIENCE OR THE ARTS

Arrangements have been made with the faculty of the college of liberal arts by which it will be possible for a student to complete the course in science and the course in dentistry in six years, thereby attaining the degrees of B. S. and D. D. S.

A student electing the classical or philosophical course in the college of liberal arts, may obtain the degree of B. A. or B. Ph. and D. D. S. in the same length of time by electing the re-

quired science of the scientific course during the years of his undergraduate course in the college of liberal arts and taking the course in dentistry as prescribed in the following combined course.

COMBINED COURSE LEADING TO THE DEGREES OF B. S. AND D. D. S.

First Year	*Second Year*
German—*5	German—3
Mathematics—4	English—3
Physics—4	Chemistry—4
English or Drawing—5	Zoology—4
	Animal physiology—3
Third Year	*Fourth Year*
Botany—4	Freshman Dental
Chemistry—2	French—10 hours in college of liberal arts
Animal morphology, advanced—4	
Fifth Year	*Sixth Year*
Junior Dental	Senior Dental
Elective, of 10 hours in college of liberal arts	

COMBINED COURSE LEADING TO THE DEGREES OF M. D. AND D. D. S.

Students may arrange to obtain the degrees of Doctor of Medicine and Doctor of Dental Surgery in six years. Details must be arranged by the faculty. The requirements for admission to the combined course leading to the degrees M. D. and D. D. S. are the same as the requirements for admission to either of the two colleges of medicine. They are as follows: 30 preparatory credits, including at least one year of Latin, one preparatory credit being given for the successful pursuit of one high school or academy study during a semester eighteen weeks in length, with five recitation periods a week, on the basis of four studies a day.

*The figures indicate the number of exercises a week. For a full statement regarding courses in college of liberal arts see announcement of college of liberal arts.

Students taking combined courses under four-year curriculum will add one more year to above course of study. See dean of college for particulars.

REQUIREMENTS FOR ADMISSION TO THE COMBINED DENTAL AND CLASSICAL, OR DENTAL AND PHILOSOPHICAL COURSE

1.	Some *one* foreign language (Latin preferred, but Greek, French, or German accepted),	*4 credits
2.	English, or literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics, or science,	13 credits
	Total,	30 credits

REQUIREMENTS FOR ADMISSION TO THE COMBINED DENTAL AND SCIENTIFIC COURSE

Another excellent course leads to the degrees of B. S. and D. D. S. This course may also be completed in six years. The admission requirements are as given below:

1.	Latin, or German, or French,	4 credits
2.	English and literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents and progressions	3 credits
5.	Plane geometry,	2 credits
6.	Electives, (*additional* accreditable work in foreign language, English, history, mathematics, or science),	13 credits
	Total,	30 credits

For a detailed statement of the requirements for admission see the latest announcement of the college of liberal arts.

SCHEDULE OF STUDIES

A tentative curriculum for the four year course of instruction is here given, subject to modification as may seem expedient. A specimen programme for those finishing the three year course will be found near the end of this announcement.

*Applicants who do not present *eight* semesters of foreign language will be required to take in the university, *with credit, in addition* to the foreign language required in these two combined courses, respectively, the difference between eight semesters of preparatory work and the amount presented.

FRESHMAN YEAR	SOPHOMORE YEAR
General Physics	Anatomy
Anatomy	Dissection
Physiology	Physiology
Chemistry	Materia Medica
Chemical Laboratory	Metallurgy
Histology	Metallurgical Laboratory
Histological Laboratory	Operative Dentistry
Dental Anatomy	Operative Technic
Prosthetic Technic	Prosthetic Dentistry
Operative Technic	Prosthetic Technic
Dissection	Special Histology

JUNIOR YEAR	SENIOR YEAR
Physiological Laboratory	Operative Dentistry
General Therapeutics	Prosthetic Dentistry
Special Therapeutics	Orthodontia
General Pathology	Special Therapeutics
Special Pathology	Special Pathology
Operative Dentistry	Oral Surgery
Prosthetic Dentistry	Clinical Dentistry
Regional Anatomy	Comparative Odontography
Bacteriology	Therapeutics
Orthodontia Technic	Physical Diagnosis
Porcelain Technic	Dental Jurisprudence
Infirmary	Hygiene
	Special Lectures
	Infirmary

All students will be required to pass an examination on the studies pursued in their respective courses before leaving the university at the close of each term. No student who has failed in two of the studies of this course will pass to advanced standing unless these studies are made up before the second week in January of the succeeding session. No certificates are given to any who fail in more than two branches; except a time certificate stating the actual time of attendance.

Examination in conditioned studies will take place the following session, namely, the fourth week in September and the second week in January.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF OPERATIVE DENTISTRY AND DENTAL THERAPEUTICS

PROFESSOR BREENE; DR. ROGERS, DR. VOLLAND, DR. SUTHERS, DR. QUAIFE.

The course in operative dentistry, including operative technic, extends through the freshman, sophomore, junior, and senior years. The clinical facilities for instruction in this department give the student an opportunity to receive thorough drill of a practical kind that can be utilized in the practice of dentistry.

To restore teeth which have become diseased or deformed by formative chemical or mechanical means to a normal or functional condition is the ideal of operative dentistry.

To facilitate the bringing of the student to the point of recognizing and accomplishing this ideal of dental art, instruction in the detail of all operations upon the teeth is given in the technical laboratory, infirmary, and by lectures.

The course in operative technic is supplementary to lectures and laboratory work in dental anatomy of the freshman year. It is a preliminary training for clinical dentistry procedure. Every effort is put forth by the instructors in charge to make this work practical.

Each student carves from bone or celluloid blocks a number of teeth which are mounted in dummy jaws. Cavities of decay are outlined on these teeth. The student is required to prepare cavities for insertion of fillings, following the modern methods of cavity preparation.

Fillings of gold, amalgam, cement and guttapercha, also inlays of gold and porcelain, are introduced in cavities formed. Special attention is given to restoration of type and contact in relation to approximation and apposition. Thus the objective results (functional improvement) are fully demonstrated.

OUTLINE OF LECTURE COURSE

History of dentistry, care of patients, examination of teeth, use and disinfection of instruments and other appliances, removal of deposits and cleaning of the teeth, general hygiene of the mouth, methods of securing separation of teeth, preparation of cavities, selection and characteristics of filling materials, inlays—gold and porcelain.

Junior and senior years, first and second semester, three hours each week. Professor BREENE.

For information as to the plan of instruction in dental therapeutics, see department of materia medica and therapeutics.

DENTAL ANATOMY AND OPERATIVE TECHNIC

LABORATORY TECHNIC—In the laboratory work each student is required to carve from blocks of bone teeth of each class: i. e., incisors, cuspids, bicuspids and molars, and to mount them in models on an articulator; and to make free hand drawings of the individual teeth; to make various dissections of the natural teeth for the study of the pulp chambers and root canals.

Freshman year, first semester and first term of second semester. One laboratory period each week.

INSTRUMENTATION—Instrument nomenclature; instrument making; study of enamel cleavage and the cutting of tooth structure, using extracted teeth.

Freshman year, second semester. Two laboratory periods each week.

CAVITY PREPARATION AND FILLING — Study of filling materials and appliances used in operative work. Preparation of cavities and insertion fillings. Study of pulp chambers and canals, and insertion of root-canal fillings.

Sophomore year, first semester. Four laboratory periods each week.

DEPARTMENT OF PROSTHETIC DENTISTRY

PROFESSOR HOSFORD; DR. BRADY, DR. MORROW, DR. HARNED, DR. KEEHL

This course is graded and extends throughout the freshman, sophomore, junior, and senior years. The subject is presented by means of lectures, recitations, demonstrations, clinical and laboratory work.

1. IMPRESSIONS, MODELS, DIES AND COUNTER DIES—This course is didactic and illustrated from practical cases, charts, and lantern slides.

Two lectures and one recitation a week, first term, first semester.

2. DENTURES—Full upper and lower, also partial dentures, on various bases such as vulcanite, gold, aluminum, celluloid, and porcelain.

It is the aim to teach not only the mere mechanical processes in these several courses, but also that combination of art with mechanism which enables the practitioner to effect so much in restoring the symmetry of the face and the usefulness of the teeth when they have been lost or impaired by accident or disease.

Two lectures, one recitation a week, first semester, second term.

3. CROWN AND BRIDGE WORK—This course consists in the consideration didactically and practically in the infirmary of the making and application of the various kinds of crowns and bridges.

Two lectures, one recitation a week, second semester, third term.

4. CERAMICS AND CLEFT PALATE—The course in porcelain embraces the consideration of the ceramic art in the various practical uses in crown, bridge, and continuous gum work, also the uses of the different kinds of porcelain furnaces.

Cleft palate is treated didactically and from a mechanical standpoint in the infirmary. The surgical cases are referred to the chair of oral surgery. Professor HOSFORD.

5. FRESHMAN PROSTHETIC DENTISTRY—A didactic and laboratory course including the principles and methods of taking impressions, pouring models. The making of dies and counter dies. The making of different styles of dentures on bases of vulcanite, aluminum and goldine. Vulcanizing, repairing and finishing of cases made. Laboratory work, six hours each week from September to June; and one lecture each week. Dr. MORROW.

6. SOPHOMORE PROSTHETIC DENTISTRY—A didactic and laboratory course embracing the principles and their application in the making of the various kinds of crowns and bridges on models secured from practical cases.

The laboratory work consists of twelve hours each week, first semester, two lectures and one recitation each week for thirty-six weeks.

This course is supplemented by actual clinical experience. Second semester. Professor HOSFORD, Dr. BRADY, Dr. KEEHL.

7. SENIOR PROSTHETIC DENTISTRY—A didactic, recitation, and clinical course for senior students from September to June. Each student is required to perform a certain amount of prosthetic work in the infirmary to prove his or her efficiency in this subject. The large clinical attendance furnishes every facility to the student to meet every requirement.

Two lectures and one recitation each week, for thirty-six weeks.

8. INFIRMARY HOURS, twenty-seven each week. Professor HOSFORD, Dr. MORROW, Dr. HARNED.

DEPARTMENT OF ORAL PATHOLOGY, ORAL SURGERY, AND HYGIENE.

PROFESSOR BROWN

ORAL SURGERY

Operative, therapeutic and mechanical treatment of diseases and deformities of the mouth, face, and jaws will be considered with careful distinction between those affections best suited for reference to dentists, medical practitioners, and general or oral surgeons.

The divisions and special features of the courses of study in this department are as follows:

JUNIOR STUDENTS

1. GENERAL CONSIDERATIONS—Health, disease, pulse, respiration, conditions favorable and unfavorable to operation, shock, asepsis, preparation of patient for operation, care of hands, instruments, dessings, etc.

2. WOUNDS—Varieties and treatment, bandages, dressings, processes of tissue repair. Hemorrhage, different forms and methods of checking.

3. LIGATURES AND SUTURES—Various materials used, methods of preparation and application.

4. SURGICAL ASPECT of inflammation, suppuration, abscess, ulcer, necrosis, caries, gangrene.

5. ASEPTIC FEVER, septic fever, septicemia, pyemia. Pernicious anemia, leucothemia, digestive and nutritive disturbances.

6. ERYSIPLAS, Tetanus.

7. DISEASES OF THE MUCOUS MEMBRANE. Stomatitis, leucoplakia, gangrena oris, specific disease, mucous cysts, etc.

SENIOR STUDENTS

1. REVIEW OF SUBJECTS treated in the junior year.

2. STUDY OF DIFFERENTIAL DIAGNOSIS through which the true etiologic factors of many more or less obscure pathologic conditions may often be determined, and quite frequently found to have their origin from oral disturbances not difficult to relieve, and thus by comparatively simple measures, make it possible to give almost incalculable benefit to patients.

3. AFFECTIONS OF THE MAXILLÆ — Periostitis, necrosis, tuberculosis, syphilis, fractures, dislocation, anchylosis. Diseases of the maxillary sinus.

4. DISEASES OF THE SALIVARY GLANDS—Parotitis, ptyalism, inflammatory conditions due to calculi, fistulæ, ranula.

5. NEURALGIA, epilepsy, muscular, spasm, paralysis, neurasthenia and other neurosis, related to tri-facial irritation.

6. HARE LIP, cleft palate and speech defects.

7. TUMORS—Practical study of those malignant and non-malignant growths which most frequently affect the jaws and mouth.

All of the foregoing pathologic conditions are comprehended within the special field to which the practice of the instructor is limited. Experience in hospitals having given a somewhat extensive opportunity for observation, it is possible to deal with each division from the standpoint of actual practice. Blood counts, microscopic sections of tissue, tumors, etc., and other data necessary for illustration and reference have been preserved from patients treated. Thus it is believed more benefit will accrue to the student than is usually possible where books alone must be depended upon for guidance.

Large numbers of casts of mouths of patients, from the newly born to adult and middle life, having congenital or acquired clefts of both hard and soft palates, hare lip deform-

ities, double and single in almost every degree, as well as photographs and phonographic speech records before and after operative treatment will be used to convey correct ideas of the possibilities and limitations in this direction.

ORAL PATHOLOGY

The importance of this study will be brought directly to the members of the class through illustration with photo-micrographs prepared for use in the stereopticon, and microscopic sections showing a very considerable number of pathologic changes in the histologic structure of the organs and tissues, within or intimately associated with the special operative field of dental, and oral surgery. Many of these have been taken from cases of known history, and are therefore best calculated to impress the essentially practical features of the subject. Skiagraphs, charts and drawings will also be used to supplement didactic lectures and clinical study of patients.

DISEASES OF THE DENTAL ORGANS

TEETH—Perversions of eruptive developmental processes. Dental caries, erosion and abrasion, discoloration.

DENTAL PULP-HYPEREMIA, pulpitis, devitalization, gangrene, secondary dentine, pulp modules, calcareous degeneration, polypi.

PERICEMENTUM—Gingival and calcic inflammations, pericementitis, dento-alveolar abscess, pyorrhea alveolaris, hypercementosis, absorption of roots of permanent teeth. Pathologic conditions of other organs and tissues of the mouth and jaws will be treated in the order outlined in the oral surgery course.

ORAL HYGIENE

Prophylaxis in relation to healthful preservation of the dental organs and tissues of the mouth, antiseptic mouth washes, tooth powders, resistance of oral secretions to germicidal agents and subsequent difficulty in overcoming mouth bacteria, brushes etc., will be given full consideration as well as ample illustration.

The purport of further clinical and didactic study will be to establish as the basal principle of this course, the fact that care of the buccal cavity is properly an essential part of all

sanitation. The frequent intimate relation between pathologic affections of the eye, ear, nose, throat, and the stomach with diseases of the mouth, as well as disorders of the nervous and circulatory systems having similar association, must in the light of recent advances in this direction, be fully studied with a view to effective prevention of disease, whether local or general in its manifestation.

DEPARTMENT OF ORTHODONTIA

PROFESSOR BRADY

The course in this branch is arranged at present to begin in the middle of the junior year, and continues through the entire senior year. It consists of a preliminary technic course in the laboratory, after which practical work is done in the infirmary under the direct supervision of the professor in charge. The supply of clinical cases is abundant, and each senior student is required to treat at least one case.

Weekly lectures are given throughout the course, which are illustrated by lantern slides and charts, to which constant additions are being made. The course is strictly graded, the work of the different years being entirely separate.

1. MODELS AND OCCLUSION—Impressions in modeling compound, for temporary purposes. Impressions in plaster with the details of removal from the mouth, re-arrangement varnishing, filling, and separating, and the proper trimming and mounting of models. The study of normal occlusion in all its details. The restoration of normal occlusion upon irregular models. The classification of malocclusion, with extensive practice in classification and diagnosis of malocclusion from models.

2. TECHNIQUE OF APPLIANCES—The use of plain bands, with the details of soldering same and various attachments thereto. The application of clamp bands, the expansion arch, wire ligatures, and reciprocal anchorage. The principles of retention. Retaining appliances and the details of their manufacture.

The above numbers occupy the entire second semester of the junior year. Instruction is given through one lecture and two laboratory periods each week.

3. TREATMENT—The practical applications of the expansion arch with combinations of bands and ligatures. Expansion,

Contraction. Reciprocal movements. Treatment of the mouth breather. Treatment of protrusion of the lower jaw. Surgical procedures in orthodontia.

4. PHYSIOLOGY OF ORTHODONTIA—Development of the teeth, jaws, and alveolar process. Eruption and absorption of the teeth. Histology of the pulp, peridental membrane, and alveolar process. Physiology of tooth movement and secondary osseous deposit. Proper age for correction from a physiological standpoint.

5. ETIOLOGY—The causes of malocclusion. Local causes. General causes. Disturbances of nervous functions. Effects of disease. Arrests of development. Perversions of development. Atavism. Degeneracy. Use and disuse of tissues or organs. Action and reaction through normal performance of function.

6. GENERAL — Historical, regarding appliances and methods. Orthodontia appliances in fractures of the jaws. Orthodontia appliances in oral surgery. The relation of orthodontia to rhinology. The conduct of practice in orthodontia.

Numbers 3 to 6 inclusive represent the weekly lectures during the senior year.

7. INFIRMARY—In addition to the above lectures, practical instruction is given in the infirmary from 3 to 5 daily throughout the senior year.

DEPARTMENT OF DENTAL AND REGIONAL ANATOMY

PROFESSOR ROGERS

1. DENTAL ANATOMY—The instruction in this subject is given by means of lectures and recitations, supplemented by laboratory technic.

The study of dental anatomy includes a careful study of the surfaces, ridges, fossæ, grooves, etc., of the individual teeth of both the deciduous and permanent sets; their origin, formation, calcification, eruption, and peculiarities in formation and growth.

The lectures are illustrated by charts, models and the stereopticon.

Freshman year, first semester, and first term of second semester, one hour each week.

2. REGIONAL ANATOMY—Lectures and recitations. The instruction in regional anatomy is supplementary to the instruction in general anatomy. It includes a thorough study of the bones, muscles, bloodvessels, and nerves of the head and face, especially those intimately associated with physiology and pathology of the dental organs. Lectures on blood and nerve supply to the teeth are illustrated by the stereopticon. Other lectures are illustrated by maps, charts and models, and by well prepared specimens of the head, jaws, teeth and nerves, *in situ*.

Senior year, first semester and first term of second semester, one hour each week.

DEPARTMENT OF ANATOMY

PROFESSOR HARRIMAN; DR. MULLIN, MR. JONES, MR. FOX.

The courses in General Anatomy are described on pages 334-335 above.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR MCCLINTOCK; MR. BAILEY, MR. KLEINSORGE

For a description of the work in Physiology, see courses 1, 2, 3, 4, 5, 6, 7, and 11, pages 335-338 above.

DEPARTMENT OF CHEMISTRY AND METALLURGY

PROFESSOR ROCKWOOD; ASSISTANT PROFESSOR BARLOW, ASSISTANT PROFESSOR BONNET

The course consists of lectures with recitations, and of practical work in the laboratory. The former are given in the medical building; the latter in the chemical laboratory of the university.

1. GENERAL CHEMISTRY—This is taught by lectures and recitations in which the general principles of the science are considered, special attention being given to their application to dental operations and to the needs of the dental practitioner.

Freshman year, second term of the first semester, and first term of the second semester. Two hours each week. Professor ROCKWOOD.

2. ANALYTICAL CHEMISTRY—A laboratory course, the object of which is to familiarize the student with chemical manipulations and the use of apparatus as well as with the action of re-agents and the properties of the most important metallic compounds.

Freshman year, second term of the first semester, and first term of the second semester. Five hours each week. Professor ROCKWOOD.

3. METALLURGY—The lectures treat of the separation of the metals from their ores, their refining, and the properties of those of most use in dentistry. The preparation, properties, and methods of working dental alloys, including the nature, manufacture and testing of amalgams.

Junior year, first semester, first term. Two hours each week. Professor ROCKWOOD.

4. PRACTICAL METALLURGY—This consists of laboratory study of the metals most commony used in dentistry,—their physical properties and chemical changes, particularly those produced by the action of heat. Opportunity is afforded for making and testing amalgam alloys and for learning the methods of refining gold, silver, and platinum.

Junior year, first semester, first term. Professor ROCKWOOD.

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

PROFESSOR CHASE; PROFESSOR BREENE.

1. INORGANIC MATERIA MEDICA—The course is introduced by definitions, and a discussion of routes and modes of administering drugs, dosage, classification of official preparations, and prescription-writing, including the subject of incompatibilities. Following such general topics inorganic drugs are taken up in a natural order of grouping. Sophomore year, first semester. Two lectures and one recitation each week. Professor CHASE.

2. ORGANIC MATERIA MEDICA—Drugs both of vegetable and of animal origin will be considered. As before they will be grouped with reference to some dominant or characteristic action. Thus are grouped together drugs affecting the nervous system, the heart, and circulatory system, the respiration, etc.

Toward the close of the year a general review is given. Sophomore year, second semester. Two lectures and one recitation each week. Professor CHASE.

3. THERAPEUTICS — General therapeutics will be presented during both semesters with special reference to general principles underlying the subject of healing. Drugs such as affect the tissues of the body generally as well as those directed to particular systems are presented separately. Thus are considered drugs acting upon the heart, circulation, respiration, digestion, etc. Later in the semester drugs whose action is more definitely directed to particular organs, or parts are considered. Prescription-writing will be given careful attention throughout the year, the aim being to illustrate each drug with one or more practical prescriptions, and to discuss briefly its mode of administration. Junior year, both semesters. One lecture and one recitation each week. Professor CHASE.

4. DENTAL THERAPEUTICS—In addition to the foregoing the members of the junior class will be required to attend a special course in dental therapeutics wherein will be presented those drugs which are of special use to the practicing dentist. Junior year, second semester. One leecture each week. Professor BREENE.

5. DENTAL THERAPEUTICS—This course is a review of the work given in the junior year, with additional instruction in chemical therapeutics. This gives the student a thorough understanding of practical methods of treatment.

The application and prescribing of remedies for the prevention as well as the cure of diseased conditions is demonstrated by the instructors in charge of the infirmary.

Senior year, first and second semester. One lecture each week with recitations. Professor BREENE.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS; MR. HOOVER, MR. BLYTHE, MR. STARBUCK, MR. BOOTS.

The courses in Histology and Embryology are described above, pages 341-343.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

PROFESSOR ALBERT; DR. LAMBERT, DR. KRAUSE, MR. BYRNES, MR. ALBERT

The department of pathology and bacteriology occupies the rooms on the third floor of the new laboratory building of the college of medicine. This floor has two large laboratories for the general work of the department, one large room for clinical microscopy, four rooms for students doing advanced work, one large room for the medical museum, with twelve places for students doing special research work or carrying on original investigations and five small rooms for office preparation and other special purposes.

All of the laboratories are well lighted, completely furnished and thoroughly equipped with new microscopes of the most modern type, and all apparatus necessary for carrying on any kind of investigations in the field of pathology and bacteriology. Each student is provided with a glass-topped table, a microscope, a locker and the necessary staining reagents.

The course in pathology and bacteriology extends through the sophomore and junior years, and is presented by means of lectures, recitations, demonstrations and laboratory work. The lectures are illustrated by means of drawings, charts and the stereopticon; also by preparations from the medical museum and fresh specimens derived from post-mortem examinations and the university clinics. The laboratory work comprises the preparation and study of specimens representing various diseased conditions, paying special attention to the pathological processes involving the tissues of the oral cavity.

26. GENERAL PATHOLOGY — A didactic, recitation and demonstration course including the etiological factors in disease processes, the disturbances of circulation and nutrition, inflammation, atrophy, degeneration, infiltration, necrosis, hypertrophy, and allied subjects.

Sophomore year, two hours each week during the second semester. Professor ALBERT.

27. TUMORS AND SPECIAL PATHOLOGY—A didactic, recitation and demonstration course, including all forms of tumor formations, and the various disease conditions which occur within or about the oral cavity, as well as pathological conditions in

other parts of the body, such as the gastro-intestinal tract, the urinary tract, etc., which by the disturbances of metabolism which they produce, effect a change in the oral tissues.

Junior year, two hours each week during the first semester. Professor ALBERT.

28. PATHOLOGICAL HISTOLOGY—A laboratory course in general pathology, tumors, and special pathology, which is illustrative of the didactic lectures, comprising the preparation and study of slides, showing the general pathologic changes that occur in human tissue, a complete collection of tumors, and special diseased conditions of the oral cavity and adjacent structures.

Special attention is given to the drawing of the microscopic specimens. To test the knowledge of the student, reviews of unknown specimens are given at different times during the course.

Sophomore year, two hours each week during the second semester. Junior year, two hours each week during the first semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

29. BACTERIOLOGY—A didactic, recitation and laboratory course including the cultivation of micro-orgauisms, their separation by means of plate cultures, the staining, recognition, and diagnosis of the different pathogenic microbes, with special reference to the micro-organisms of the buccal cavity and their relation to the various infectious processes of adjacent tissue.

Junior year, three hours each week during the second semester. Professor ALBERT, Dr. LAMBERT, Dr. KRAUSE.

GENERAL HYGIENE

DR. CLARK

The courses in General Hygiene are described above, page 358.

COMPARATIVE ODONTOGRAPHY

PROFESSOR NUTTING

A general view of the dental organs of animals affords many points of practical interest to the dental student, and throws light on some perplexing questions that arise in connection with peculiarities of the human teeth. Such a view is afforded by this course of lectures. Particular attention is paid

to the various mechanical contrivances by which Nature has met special dental problems. In addition to this general discussion of the teeth of animals, some attention is paid to the embryology and histology of these organs. A special feature of the course is a demonstration, by means of projection of the actual slides, of some obscure points regarding the vascular supply of the teeth and peridental membrane. This is made possible by means of a series of preparations by which sections of teeth, including the pulp and other soft structures, are made without decalcification.

The course is amply illustrated by specimens from the natural history museum, charts, and lantern slides.

Second semester, senior year.

DENTAL JURISPRUDENCE

PROFESSOR GREGORY

The state law regulating the practice of dentistry is fully discussed. The general principles of legal liability will be explained and suggestions are made as to the legal rights of the practitioner with reference to his compensation.

PRACTITIONERS' COURSE

This course is planned for the convenience and benefit of practitioners. It will be optional with those entering the course as to what studies they will pursue, and what methods in practical work they may take up. The curriculum will be arranged more especially to give a thorough course in pulp and abscess treatment and other pathological conditions of the oral cavity. In addition to this, detailed instruction will be given in bridge and crown work, continuous gum dentures, porcelain fillings, and in the methods of working metals by all the different operations which the practitioner is called upon to perform.

REQUIREMENTS FOR ADMISSION TO PRACTITIONERS' COURSE

Anyone in reputable practice may enter this course. Graduates of this college will be admitted on the payment of the matriculation fee only. Graduates of other reputable dental schools will be admitted on the payment of the matriculation fee and $10.

A full corps of demonstrators in all subjects has been appointed to attend to the duties pertaining thereto. The service of several additional clinical instructors will be obtained during the session, each a specialist.

FEES FOR PRACTITIONERS' COURSE

Matriculation fee	$10.00
Tickets, including certificates	25.00
Laboratory fee	6.00
	$41.00

DENTAL ASSISTANT'S COURSE

A training school for dental assistants has been authorized by the board of regents. The course will extend through one year of nine months, beginning and ending with the regular dental year. The fee for tuition is $15 for the course, of which $7.50 is payable on the date of registration, and the balance at the opening of the second semester. Students who have not previously matriculated will pay the regular matriculation fee of $10. Candidates for admission to this course must possess a common school education, and must present two letters of recommendation as to their capabilities, qualifications, and moral character. No other examination for admission will be required. This course will be both didactic and practical, thorough instruction being given in operative and prosthetic technic, therapeutics, pathology, and dental anatomy; there are also special lectures and work relative to the duties of an assistant both at the operating chair and in the laboratory.

An important additional feature of this course will be the special training of young women with a view to fitting them to perform the duties of dental assistant nurses.

In this new and promising field there is at present a demand for persons whose capabilities and training fit them for the work. The remuneration is good and the employment of a much less ardous character than that required of a medical nurse. The hours are short and regular, while surroundings are usually such as appeal to persons of culture.

Credits obtained in this course will be allowed to those desiring to attend and complete the regular dental course, providing the requirements are fulfilled as provided for the regular dental course.

DENTAL MUSEUM AND LIBRARY

Members of the dental profession, dental students, and all persons interested, are invited to contribute to the museum such specimens of malformation, normal or diseased conditions as will serve for illustration of dental teaching; also to the library any books, pamphlets, journals, or other reading matter pertaining to dental subjects. Such contributions will be duly labeled with the donor's name and carefully preserved.

REQUIREMENTS FOR GRADUATION FOR SESSION OF 1904-1905

The candidate for graduation must be of legal age and of good moral character; must present to the faculty a satisfactory case of artificial dentistry; also the required clinical record of practical operations on the natural teeth; must sustain a satisfactory examination in the branches taught, and must prove his fitness for the practice of dentistry.

The time of study must include attendance on three courses of lectures, the last of which must be at this college.

The deportment during the course must have been unexceptionable, and attendance upon all lectures, clinics, and other instruction in the course must have been in accord with the requirements of the college.

Members of the senior class must notify the dean of the faculty in writing during the second week of April of their intention of becoming applicants for the degree of Doctor of Dental Surgery, at the same time presenting a certificate from the treasurer of having paid all fees, and a certificate of legal age and good moral character.

Attendance on any course of lectures in other recognized dental colleges having similar requirements will be accepted as equivalent to a corresponding course in this college. Graduates of medical colleges will be required to attend three full years of instruction in this college, including all laboratory and clinical requirements, and all lectures, before applying for graduation.

Having complied with the requirements of this college, the faculty will recommend the candidate to the board of regents as entitled to receive the degree of Doctor of Dental Surgery.

TUITION

FRESHMAN YEAR—Matriculation fee, $10.00 payable upon matriculation. (Students may matriculate at any time.) Fifty dollars on date of registration. Forty dollars at the opening of the second semester.

SOPHOMORE, JUNIOR AND SENIOR YEARS—The tuition will be $100.00 a year, $60.00 being payable at the date of registration, and $40.00 at the opening of the second semester. This includes the fee for the diploma at the end of the fourth year.

There are no extra fees whatever, but a deposit of $3.00 must be made to cover breakage and loss before beginning work in the chemical laboratory. All material used in the laboratory and operative technic work, except gold, is furnished by the college.

A student registered in more than one college of the university is required to pay the tuition of the college having the higher or highest rate of tuition of the college in which he is registered, and is then granted the privilege of free tuition in any other college in the university.

The above statement of the fee is now in effect, and will be understood to apply to all students in the college, entirely irrespective of the date of registration.

COMPARATIVE STATEMENT OF STUDENT'S EXPENSES FOR THE ACADEMIC YEAR, SEPTEMBER TO JUNE

	Low	Average	Liberal
Tuition Fees	$ 100.00	$ 100.00	$ 100.00
Board (36 weeks)	63.00	99.00	126.00
Room, heated and lighted, (one-half)	36.00	45.00	54.00
	$ 199.00	$ 244.00	$ 280.00

The above estimates do not include such incidentals as books, instruments, clothing, laundry or membership in societies, some of which are luxuries and all of which vary greatly with the means and habits of the individual students.

TEXT-BOOKS AND BOOKS OF REFERENCE

These can be obtained at the bookstores in Iowa City. Dealers give a discount of from ten to twenty per cent. The following are recommended by the faculty:

Operative Dentistry: American Text-book of Operative Dentistry, Ottolengui, Flagg's Plastics, Johnson's Principles and Practice of Filling Teeth.

Prosthetic Dentistry: Essig's Prosthetic Dentistry, Richardson's Mechanical Dentistry, Evan's Artificial Crown and Bridge Work.

General Pathology: Green, Stengel, Zeigler, Delafield, Pruden.

Bacteriology: Abbott, Crookshank, McFarland.

Histology: Piersol, Schaefer, Stirling, Klein.

Oral Pathology and Hygiene: Green, Garretson's Oral Surgery, Wilson on Hygiene, Marshall's Diseases of Face, Mouth, Jaws, Barrett's Oral Surgery, Burchard's Dental Pathology.

Chemistry: General Chemistry, Bloxam, Remsen; Qualitative Analysis, Rockwood.

Metallurgy { Essig / Hodgen

Materia Medica: White and Wilcox, Potter.

Therapeutics: Gorgas, Hare, Long.

Dental Therapeutics: Gorgas, Eli Long, Borland.

Anatomy: Gray (18th edition), Holden's Landmarks, Quain (10th edition), Holden's Osteology, McClellan's Regional Anatomy, Treve's Applied Anatomy.

Physiology: Landois and Sterling, Kirk. Stewart.

Orthodontia: Angle, Guilford.

Dental Anatomy: Black, Broowell.

Comparative Anatomy: Howell.

Dictionaries: Harris, Dunglison, Thomas, Gould, Borland.

GENERAL INFORMATION

The office of the registrar is open every day in the year for students desiring to matriculate and complete registration.

Seats will be assigned to classes in the order of registration at the university.

Operating chairs will be assigned to the senior class in the order of marticulation at the university, but this privilege will be forfeited unless the student is in attendance at the opening of the session.

Students should make their arrangements to be in attendance on the first day of the session, as the faculty cannot adjust

their plans to the tardy arrival of students by wasting time on unimportant lectures at the beginning. Promptness at the beginning of the term is very essential.

Members of the profession who receive this announcement are requested to notify the dean of any change in address. They will also confer a favor by sending the names of other dentists practicing in the towns in which they reside. For further information apply to William S. Hosford, Dean of the College of Dentistry, Iowa City, Iowa.

DENTAL CLINICS

STATISTICS—FOR THE YEAR 1903-1904

No. of patients treated in all departments	10602

OPERATIVE DEPARTMENT

No of fillings—gold	1595
No. of gold inlays	27
No. of porcelain inlays	42
No. of fillings - amalgam	2110
No. of fillings—cement	787
No. of pulp cases	1279
No. of root fillings	842
No. of cleaning cases	885
No. of pyorrhœa cases	99
No. of extraction cases	510
No. of abscess cases	163
No. of necroses cases	5

PROSTHETIC DEPARTMENT

No. of full dentures	248
No. of full dentures—metal	57
No. of partial dentures	113
No. of partial dentures—metal	52
No. of crowns	947
No of porcelain crowns	221
No. of pieces of bridge work	161
No. of specimen crowns and bridges	688

ORTHODONTIA DEPARTMENT

No. of sets of teeth regulated	30

Specimen Programme of the College of Dentistry

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physi'logy 1	Histology 3	Dental Anatomy 3	Histology 3		
9 to 10	Histology 3	Physi'logy 1	Histology 3	Anatomy 1	Histology 3	Anatomy Recitation
10 to 11	Anatomy 1	Anatomy 1	9:45 to 10:15 *University Assembly*	10:00 to 12:00 *Hist'logical Laboratory*	10:00 to 12:00 *Hist'logical Laboratory*	Chemistry 1
11 to 12	Physi'logy Recitation		Chemistry 1			
1 to 2	1:00 to 3:30 *Prosthetic Laboratory*	1:00 to 3:30 *Prosthetic Laboratory*	1:00 to 3:30 *Prosthetic Laboratory*	1:00 to 3:30 *Prosthetic Laboratory*	1:00 to 4:00 *Dental Technic*	
2 to 3						
3 to 4		3:00 to 5:30 *Chemical Laboratory*			3:00 to 5:30 *Chemical Laboratory*	
4 to 5						

Second Semester. Chemistry and Comparative Anatomy Dissection.

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	General Pathology 3	Anatomy 1	Prosthetic Dentistry 4	General Pathology 3	Special Pathology	
9 to 10		Operative Dentistry 4	9:45 to 10:15 *University Assembly*		Physi'logy 1	Chemistry 4
10 to 11	Orthodontia Technic 3	Chemistry 4	Anatomy 1	Therapeutics	Anatomy 1	Physi'logy 1
11 to 12		Physi'logy 1	Recitation Anatomy	Anatomy 1		
1 to 2	1 to 4 *Sec. II Prosthetic Laboratoay*	1 to 3 *Sec. I Prosthetic Laboratory*	1 to 4 *Sec. II Prosthetic Laboratory*	1 to 4 *Sec. I Prosthetic Laboratory*		
2 to 3		1 to 3 *Sec. II Operative Technic*				
3 to 4	1 to 4 *Sec. I Operative Technic*	3 to 5:30 *Chemical Laboratory*	1 to 4 *Sec. I Operative Technic*	1 to 4 *Sec. II Operative Technic*	3 to 5:30 *Chemical Laboratory*	
4 to 5						

Infirmary after completion of Technic Course. Dissection October.
Special Histology second Semester 4th term. Chemistry December 1st.
Special Therapeutics second Semester.

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Operative Dentistry 4	Special Therapeutics 4	General Hygiene 1	Prosthetic Dentistry 4	Prosthetic Dentistry 4	Special Pathology Recitation 4
9 to 10	Operative Dentistry 4	Regional Anatomy 3	General Hygiene 9:45 to 10:15 *University Assembly*	*January 4 to June 1* Pathol'gic'l *Laboratory* 9:00 to 12:00	Special Pathology 4	9 to 12 *Infirmary*
10 to 11		Orthodontia	General Hygiene 1		Special Pathology 4	
11 to 12	Special Lectures		Special Lectures		Special Lectures	
1 to 2	1 to 5 *Infirmary*	1 to 5 *Infirmary*	1 to 5 *Infirmary*	1 to 5 *Infirmary*	1 to 5 *Infirmary*	1 to 5 *Infirmary*
2 to 3						
3 to 4						
4 to 5						

Clinical Surgery 10 to 12 Monday Oral Surgery Clinic Saturday 9 a. m.
1 Medical Amphitheatre. 2 West Room Medical Building.
3 West Room Dental Building. 4 Room 17 Dental Building.

THE COLLEGE OF PHARMACY

THE COLLEGE OF PHARMACY

FACULTY

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., Ph. D., LL. D.,
President of the University. 603 College St. (108 Old Capitol)

EMIL LOUIS BOERNER, Ph. G., Phar. D.,
Emeritus Professor of Pharmacy. 325 N. Dubuque St.

LAUNCELOT W. ANDREWS, B. Ph., M. A., Ph. D.,
Professor of Chemistry, and Director of the Chemical Laboratory.
251 S. Johnson St. (20 Chemical Laboratory)

CHARLES SUMNER CHASE, B. A., B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

BOHUMIL SHIMEK, C. E., M. S.,
Professor of Botany. 529 Brown St. (201 Science Hall)

WILBER J. TEETERS, B. S., M. S., Ph. C.,
Acting Dean of the Faculty, Professor of Pharmacy, Pharmacognosy and Director of the Pharmaceutical Laboratory.
West Side (304 Pharmacy Laboratory

THOMAS H. MACBRIDE, B. A., M. A., Ph. D.,
Special Lecturer. 728 Washington St. (206 Science Hall)

ELBERT WILLIAM ROCKWOOD, B. S., M. D.,
Lecturer on Toxicology. 1011 Woodlawn (Chemical Laboratory)

LAWRENCE MARSHALL BYERS, B. A., M. A., LL. B.,
Lecturer on Pharmacy Jurisprudence.

CARL L. VONENDE, B. S., M. S., Ph. D.,
Instructor in Chemistry. 715 Gilbert St. (Chemical Laboratory)

ZADA M. COOPER, Ph. G.,
Assistant in Pharmaceutical Laboratory.
505 S. Dubuque St. (304 Pharmacy Laboratory)

HARVEY H. LOCHRIDGE, B. S.,
Storekeeper in Chemical Laboratory. (Chemical Laboratory)

ADIN N. BROWN, Ph. G.,
Assistant in Pharmaceutical Laboratory.
Kappa Sigma House. (304 Pharmacy Laboratory)

ROY E. HALL,
Undergraduate Demonstrator of Pharmacology.

WM. C. WOLVERTON,
Undergraduate Instructor in Pharmaceutical Latin.
407 S. Capitol St. (301 Pharmacy Laboratory)

GUY GRIFFIN FRARY, B. S.,
Fellow in Chemistry.

THE COLLEGE OF PHARMACY

The college of pharmacy of the state university of Iowa was organized in 1885, and is an integral part of the university. This college offers a broad, thorough, practical course in the various subjects pertaining to pharmacy. The necessity for technical training in this subject is now recognized by all who are seeking to prepare themselves for the responsible positions of today, open only to the thoroughly trained, as prescriptionists, manufacturing pharmacists or industrial chemists. The services of skilled and thoroughly competent pharmacists are in demand It is the aim of the college, as the state school, to coöperate with the pharmacists of the state in their efforts to maintain and elevate the standard of the profession. In planning the laboratory courses, the advantage to the student is kept constantly in mind.

The influence of carefully prepared laboratory courses cannot be overestimated, since, requiring patience, exactness and skill they cannot help but leave an impression upon the character of the student. It is the formative period and habits of systematic industry help to lay the foundation for success in life.

Personal interest and instruction has always been a feature of the college, and probably, in a large measure, is responsible for the success of its graduates. The students have all the privileges and share the spirit of a great educational institution.

BUILDING

This college is comfortably located in a three-story building erected at a cost of about fifty thousand dollars and furnishing about twenty-five thousand square feet of floor space, perhaps the largest accommodations in the way of room enjoyed by any college of pharmacy in this country. The equipment of this building is of the most modern type and is in keeping with the development of the science. Through liberal appropriations periodically made by the legislature and board of regents, this equipment is being constantly enlarged, and affords excellent facilities for instruction. The lecture rooms are provided with

all desirable conveniences for class demonstration, and with tablet chairs. The laboratories are especially roomy, the chemical and pharmaceutical laboratories, each occupying a floor space of 54 x 140 feet, which is divided into a large general laboratory and smaller rooms for special research. Two forty horse-power boilers supply the steam for all purposes, and a seven horse-power gas engine furnishes the power for the drug mill, dynamo, etc.

REQUIREMENTS FOR ADMISSION

Each applicant for admission must present to the faculty a satisfactory certificate of good moral character.

The following classes of applicants may be admitted to junior standing without examination:

1. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges.

2. Graduates of state normal schools, of accredited high schools or academies, or of other secondary schools whose courses of study are approved by the university, who present diplomas or certificates showing such graduation.

3. Pupils who have only partially completed the course of study of a state normal school, accredited high schools or academy, or other secondary schools whose courses of study are approved by the university, upon presentation of certificates signed by the superintendent or the principal showing that they have completed the equivalent of at least *two years* of high school work, or *sixteen* (*16*) preparatory credits.* This certificate must be sent to the university examiner *as early in the summer as possible.* A blank form can be obtained by addressing the president of the university, the dean of the college of pharmacy, or the university examiner.

*A preparatory credit is defined as the equivalent of *one* high school study *five* days a week during a semester at least *eighteen* weeks in length, on the basis of *four* studies a day.

All other applicants may be admitted *only upon passing examinations* in the subjects named in the programmes of entrance examinations given below, or other subjects which are real equivalents.

Applicants presenting certificates from accredited schools for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

Notice is given that the requirements for admission are to be extended in subsequent years.

It is urged that any one expecting to enter the college of pharmacy next September send all certificates of preparatory work to the university examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean for signature.

Admission to the senior class is gained by passing an examination in the branches of study taught during the junior year. Students presenting evidence of having passed the junior examination in another recognized college or school of pharmacy will be admitted without examination.

ENTRANCE EXAMINATIONS

Any person expecting to enter the college of pharmacy in September, 1904, should be careful to learn before the opening of the university exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the university, the dean of the college of pharmacy, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the university examiner who will give all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the university. For a series of two examinations covering two or more subjects, a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Tuesday, September 20, and Wednesday, September 21, 1904

Arithmetic,	1 credit,	Monday,	1:30 p. m.
English and Eng. Grammar	2 credits,	Tuesday,	4:30 p. m.
United States History,	1 credit,	Tuesday,	1:30 p. m.
Civil Government,	1 credit,	Tuesday,	2:30 p. m.
Algebra through Quadratics,	3 credits,	Wednesday,	8:00 a. m.
Physical Geography,	1 credit,	Wednesday,	11:00 a. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.
Physiology,	1 credit,	Wednesday,	4:00 p. m.

SECOND SEMESTER

Friday, February 10, and Saturday, February 11, 1905

The examinations will be held at the same hours as in the programme above, reading Friday and Saturday for Tuesday and Wednesday, respectively.

OUTLINE OF THE PLAN OF INSTRUCTION

The courses of instruction, as outlined in the following pages, embraces lectures, recitations, and laboratory exercises. Attention is called to the fact that the most modern methods of instruction are followed and an unusually large amount of carefully systematized laboratory instruction is given under the direct supervision of the professor in charge. The student in this way not only has an opportunity to apply theory but becomes proficient in manipulative skill, which is indispensable to the pharmacist. The laboratory method of instruction also has the advantage of impressing upon the mind scientific truths that would be soon forgotten if received merely as stated facts, hence in order to stimulate the student's power of accurate observation equal stress is placed upon experimental and theoretical work in chemistry. Organic chemistry and quantitative analysis are taken up in the second year and in this as well as in the first year's work careful laboratory work accompanies the lectures. The theory and practice of pharmacy is made more real by having the apparatus or preparation under discussion always at hand when possible.

The study of botany is made more interesting and practical by laboratory work, field excursions, board drawings and the lantern; while pharmacognosy is also studied with drug in hand, specimens being furnished for home study. The course in pharmaceutical Latin is especially adapted to the needs of the pharmacist. Pharmaceutical mathematics, and its application to the every-day work of the pharmacist, is too often neglected, so shall receive the attention that its importance deserves. In materia medica the action of many drugs is demonstrated in the pharmacological laboratory. An optional course in the analysis of urine, gastric juice, milk and water is given in the senior year.

A few lectures will be given on the pharmacy laws of the state. Special lectures from time to time will be given by men eminently qualified to speak from their own experience to commercial pharmacy and subjects of special interest no pharmacists.

THEORETICAL PHARMACY

PROFESSOR TEETERS

1. This course begins with lectures considering the history of pharmacy and the text books and books of reference used. Remmington's Practice of Pharmacy will be used as a guide and each subject carefully considered. Lessons will be assigned and recitations elucidated by apparatus used in the various processes or preparations under discussion. The composition, method of preparation, physical properties, impurities, and tests of the various substances will have attention according to importance or value in pharmacy.

Junior year, four hours each week first semester and three hours each week second semester.

2. This course is a continuation of counsel, and among important subjects discussed will be detailed consideration of inorganic and organic acids, and official salts; fixed and volatile oils and fats; alkaloids and glucosides. Especial attention is paid to the chemistry and incompatibility of the above, also physical characteristics, therapeutic properties, dose and price.

Senior year, three hours each week, first semester and first term, second semester.

3. The study of the prescription will be taken up in detail, incompatibility, pharmaceutical, therapeutical and chemical; solubility of ingredients, price etc., considered, also practice in reading difficult prescriptions from photographs taken from actual prescription files and thrown on the screen.

The lectures will be followed by practical laboratory work in filling prescriptions, labeling and wrapping ready for delivery, under careful personal supervision.

Senior year, two hours each week, second term, second semester.

PRACTICAL PHARMACY

PROFESSOR TEETERS, MISS COOPER, MR. BROWN

1. In this course the student will make about 150 United States Pharmacopœia and National Formulary preparations, taking them up in progressive order, illustrative of the various processes used in pharmacy. Each preparation is graded separately and required to meet a reasonable standard of aqun-

tity, quality and strength. The instruction will embrace practice in the use of thermometers, hydrometers, specific gravity bottles, balance etc. The preparation of hypodermic and compressed tablets, scale salts, pill masses, syrups, tinctures, fluid extracts, emulsions, suppositories, ointments, etc.

Each student receives a mimeograph copy of the list of reparations to be made which gives quantities and method to be employed in manufacture and serves as a guide for review.

Junior year, nine hours each week throughout the year.

2. This course will consist of the manufacture of about seventy-five preparations, selecting the more difficult galenicals from the U. S. Pharmacopœia, National Formulary and special formulas and will include the preparation of many chemicals which the pharmacist should and can prepare for himself with both advantage and profit.

Senior year, laboratory course. Nine hours each week, first semester.

In order to properly equip the pharmacist for his work and aid him in making practical application of knowledge gained in previous courses and also to allow some latitude in selection of work two courses are given and the student has an option of either course 3 or 4.

3. This course will embrace a qualitative and quantitative determination of the constituents of normal and pathological urine and a microscopical examination of deposits; the analysis of gastric juice, milk and water.

Senior year, combined lecture and laboratory course. Six hours each week. First term, second semester.

4. This course will have especially in view practical application of knowledge gained in previous courses and will consist in applying U. S. P. tests for identity and detection of impurities in drugs; the determination of strength of official preparations made by junior students; the detection of adulteration of food.

5. In this course, the compounding of prescriptions under careful individual instruction at the prescription counter, illustrative of chemical, pharmaceutical, and physiological incompatibility.

Senior year, laboratory course. Six hours each week. Second term, second semester.

SENIOR QUIZ CLASS

MISS COOPER

In connection with course 2 of practical pharmacy a quiz class is conducted which aims to bring out all the important points concerning the preparations made in the laboratory. Each week's work is explained in advance, giving methods, and noting especially the precautions necessary to the successful manufacture of each preparation. The composition of each and the chemical reaction which takes place is carefully considered together with uses, dosage, etc.

Senior year, one hour each week, first semester and first half of the second semester.

JUNIOR QUIZ CLASS

MR. BROWN

Instruction by means of a quiz class is given covering difficulties likely to be encountered in laboratory work. The composition of the various preparations, with chemistry involved, and the reasons for each step in their manufacture will receive careful consideration.

Junior year, one hour each week throughout the year.

CHEMISTRY

PROFESSOR ANDREWS, DR. VON ENDE, MR. LOCHRIDGE, MR. FRARY

101 ELEMENTS OF GENERAL CHEMISTRY — Lectures illustrated by experiments, four times a week, first semester. Dr. VON ENDE.

102. ELEMENTS OF GENERAL CHEMISTRY (Continued)— Lectures illustrated by experiments, four times a week, second semester. Dr. VON ENDE.

103. LABORATORY EXERCISES — Two periods a week, three hours each, accompanied by lectures (course 101), first semester. Dr. VON ENDE.

108. GENERAL QUANTITATIVE ANALYSIS — Laboratory practice, two periods a week, three hours each accompanied by lectures (course 102), second semester. Each student is expected to complete about twenty-five analyses of mixtures for bases and acids. Professor ANDREWS and Dr. VON ENDE.

105. SPECIAL QUALITATIVE ANALYSIS—Detection of organic constituents of mixtures, such as alcohol, chloral, phenols, formaldehyde, alkaloides, etc., etc. First quarter. Professor ANDREWS and Mr. LOCHRIDGE.

107. THEORY AND PRACTICE OF ANALYTICAL CHEMISTRY—Lectures once a week, first semester. Dr. VON ENDE.

5 (a). QUANTITATIVE ANALYSIS — Lectures on general principles and sources of error. Once a week, first semester. Professor ANDREWS.

6 (*a*) QUANTITATIVE ANALYSIS (Continued).—Lectures once a week. Professor ANDREWS.

Second semester.

104 (*109*). QUANTITATIVE ANALYSIS—Determinations of the more important constituents of chemical and pharmaceutical preparations Standardizing and use of volumetric solutions.

Second quarter and second semester, laboratory two periods, three hours each, lectures once a week. (Courses 5 (*a*) and 6 (*a*) Professor ANDREWS. Quiz once a week. Dr. VON ENDE.

13 (*14*). ORGANIC CHEMISTRY—Lectures on the aliphatic, carbocyclic and heterocyclic compounds. Laboratory exercises on the preparation of typical organic compounds, methods of sythesis and study of reactions. Professor ANDREWS.

First and second semesters, lectures once a week. Laboratory, one period a week, three hours, second semester.

Courses 101, 102, 103 and 108 are expected to be taken in the junior year; the others are required of seniors.

BOTANY

PROFESSOR SHIMEK

Three courses are offered in botany.

1. This course is devoted to an inquiry into the life and growth of the plant. Special attention is given to the various products of the plant-cell which are revealed by the microscope, and their source, mode of formation, and purposes are discussed. The course includes laboratory work with the microscope, and lectures, some of which are illustrated by stereopticon views.

Junior year, first semester. Two hours each week.

2. GENERAL BOTANY—This course is devoted to a careful study of the elements of the science. The various organs of the plant are reviewed and the local flora is made to afford abundant material to illustrate, in the hands of the student, the morphology of roots, stems and leaves, as well as the ordinary principles of floral analysis, and the means of specific identification. Types of the principal orders of greatest economic value are studied in detail, and special attention is given to the spring medicinal flora. In order that the student may also acquire some familiarity with the rich autumnal flora this course is continued for four to six weeks in the first semester of the senior year.

Junior year, second semester. Two hours a week.

3. MICROSCOPIC TECHNOLOGY—This course includes instruction in the use of the compound microscope, and its employment in the investigation of vegetable structures. The student is supplied with an instrument and all necessary reagents and apparatus, and is taught the various modes of cutting, staining and mounting histological preparations. Practical instruction is given in the use of the microscrope in the identification of crude drugs, as well as in the detection of adulteration. Each student taking this course prepares at the laboratory for his own use a cabinet of microscopic slides, illustrative of many of the more important official drugs.

Senior year. Two hours each week, throughout the year after the first four weeks.

PHARMACOGNOSY

PROFESSOR TEETERS

1. This course will take up the history and important features of each drug, the means of identification, constitutents, action, dose and official preparations.

The organic drugs of the United States Pharmacopœia will be considered in the following order: roots, rhizomes, tubers, and bulbs, twigs, woods and barks.

Due stress is given to each drug in consideration of its importance to the pharmacist.

Specimens are furnished to students for home study, and the student's ability to identify the vegetable drugs is tested.

Junior year, two hours each week, second semester.

2. A continuation of course 1. Taking up leaves and leaflets, herbs and flowers, fruits and seeds, and the vast number of miscellaneous and more important unofficial drugs.

Senior year, two hours each week, throughout the year.

PHARMACEUTICAL MATHEMATICS

MISS COOPER

The aim of this course is to teach the student to use easily and accurately the various weights and measures, the relation of one system to another in comparison with a common standard; the mutual relation of weight and volume; the calculation of strength and proportions in making pharmaceutical preparations or the dilution or fortification of substances to obtain any required result; the computation of dosage.

Junior year, two recitations each week throughout the year.

MATERIA MEDICA

PROFESSOR CHASE, MR. HALL

1. A knowledge of the action of drugs can be obtained by the student of pharmacy only by empirical or rational methods. Since the former, based upon clinical observation of their uses, is obviously beyond his reach, the latter, or rational method, is followed. Since this is based upon the observed or known action of drugs upon living animal cells, tissues, organs, apparatuses, etc., it is desirable that the student should be given an elementary course in physiological materia medica. To this end the first weeks of the course in materia medica are devoted to familiarizing the student with anatomical structures and their functions in so far as they are related to the subject of drugs and their action.

Junior year. One hour each week, first term, first semester. Professor CHASE.

2. Following the preceding course the student is given preliminary definitions of the subject; also the definition of such terms as alkaloids, leucomaines, ptomaines, etc. The various official preparations are defined and discussed. The routes and modes of administration of remedies, and their physiological and toxicological action are likewise considered. The subjects of dosage and incompatibilities as related to pre-

scription-writing, are presented; the former finally, the latter begun, to be continued as a parallel study in the consideration of individual drugs.

Junior year. One hour each week, second term, first semester. Professor CHASE.

3. The origin, source, composition, chemical characteristics, physical properties, modes of preparation and of administration, and physiological and toxicological action of drugs of the organic materia medica are begun.

Junior year. One hour each week, second semester. Professor CHASE.

4. Continuation of the preceding course. The student is required to complete the transcription of the text, begun in the preceding course and used by him in his study, in a notebook specially prepared for such purpose, with a view to aiding his memory. He is also given drill in prescription-filling and interpretation. The organic materia medica is thus completed.

Senior year. One hour each week, first semester. Profes-fessor CHASE.

5. Serum-therapy, antitoxins, organic extracts, vaccine-virus, etc., will furnish topics to be specially considered in this course. Pharmacologic demonstrations will be made before the members of this class during the last term of the second semester illustrating the most important drugs of the Pharmacopœia. These topics and subjects of emergencies, and first-aid-to-the-injured, and how they may be met by the pharmacist in the abscence of the physician, with a final review will conclude the entire subject.

Senior year. One hour each week, second semester. Professor CHASE.

TOXICOLOGY

DR. ROCKWOOD

The general action of poisons is first considered, then the most important poisons are treated separately. Their physical properties and chemical action are noticed, together with their uses, and most common sources of poisons as toxicological agents. The symptoms of the different classes are given, and the treatment for each. Especial attention is paid to antidotes. Methods of testing suspicious substances, as well as

the examination of secretions and excretions, are explained and illustrated by experiments.

Senior year, one lecture each week, throughout the year.

PHARMACY LAW

Professor L. M. Byers, of the college of law, will deliver a short course of lectures treating of the validity and construction of laws especially restraining the practice of pharmacy; of the liability of pharmacists both criminal and civil, for their own violations of laws and that of their agents. Second semester.

INSTRUCTION IN THE COLLEGE OF LIBERAL ARTS

Students of pharmacy who desire to take work in the college of liberal arts in addition to their work in the college of pharmacy without being a candidate for a degree in the college of liberal arts, are allowed to take such work to an extent not exceeding five hours a week so long as they maintain a good standing in their pharmacy studies and do the work elected in the college of liberal arts to the satisfaction of the professors in charge thereof. There is no additional tuition charges for such instruction.

QUALIFICATIONS FOR GRADUATION

Every person upon whom the diploma of this college is conferred must be of good moral character, must have arrived at the age of twenty-one years, must have attended two full courses of lectures, including two full courses of pharmaceutical, microscopical, and chemical laboratory practice, the last one of which shall have been completed in this college.

The degree of Graduate in Pharmacy (Ph. G.) will be granted upon fulfillment of the above conditions.

WEIGHTS AND MEASURES

The State standards of weights and measures are kept at Iowa City, under the direct supervision of L. G. Weld, professor of mathematics and astronomy, and dean of the graduate college.

MUSEUM

Pharmacists of the state are requested to send to the Pharmaceutical Laboratory, curios, such as old books, old prescriptions, old apparatus, or other material that will indicate, for educational purposes, the history and progress of pharmacy in Iowa. All such contributions will be prominently displayed in cabinets provided for the purpose and labeled with the names of the donors.

READING ROOMS

Reading and reference libraries are maintained in connection with the chemical, botanical and pharmaceutical laboratories. In the latter, the leading current drug journals are kept on file.

ADMISSION TO PRACTICE

Graduates of pharmacy from the State University of Iowa are granted certificates of registration from the state board without examination.

SECURING POSITIONS

The faculty of the university will do all in their power to aid students to secure good positions, and in this we ask the co-operation of the pharmacists of the state. In the past we have been unable to fill all the requests for thoroughly qualified graduates.

TEXT BOOKS

JUNIORS—*U. S. Pharmacopœia*, Remington's *Practice of Pharmacy*, *National Formulary*, Maisch's *Organic Materia Medica*, White and Wilcox's *Materia Medica and Therapeutics*, Macbride's *Lessons in Elementary Botany*, Gray's or Wood's *Manual*, Sturmer's *Pharmaceutical Arithmetic*, Crothers and Bice, *Elements of Latin for Students of Medicine and Pharmacy*.

SENIORS—In addition to the above, Caspari's *Treatise on Pharmacy*, Coblentz's *Hand-Book of Pharmacy*, Scoville's *Art of Compounding*.

REFERENCE BOOKS

U. S. Dispensatory, *National Dispensatory*, King's *American Dispensatory*, Fresenius's *Analytical Chemistries*, Hoffman and Power's *Examination of Medicinal Chemicals*, Gray's *Botanical Text-Book*, Vol. II.

Schneider's *Powdered Vegetable Drugs*, Flueckiger's *Principles of Pharmacognosy*.

Sayre's *Organic Materia Medica and Pharmacognosy*.

TUITION-FEES

Every student before entering any college of the university is required to pay a matriculation fee of ten dollars.

The tuition charges in the college of pharmacy are twenty-five dollars a semester or fifty dollars for the year. Each semester's tuition is due at the time of registration for that semester. There are no extra fees whatever, but for each laboratory course in chemistry or practical pharmacy there is required a deposit of three dollars to cover breakage and to insure the return of all keys at the close of the session. This sum, (breakage, if any, deducted) is returned to the student on presentation of the certificate of the professor in charge of the laboratory in question.

Every student, before graduating or receiving any degree in any college of the university, is required to pay a diploma fee of ten dollars for each degree he receives.

A student carrying six hours or less of work a week in the university shall pay half the regular tuition of the college in which he is registered for the time during which he shall carry such work.

A student registered in more than one college of the university is required to pay the tuition of the college having the higher or highest rate of tuition of the colleges in which he is registered, and is then granted the privilege of free tuition in any other college of the university.

SPECIAL STUDENTS

Applicants for admission to the college of pharmacy, not candidates for a degree, but desiring to pursue special subjects, will be admitted on the same conditions governing the regular students of the college or by giving satisfactory evidence that they are qualified to pursue the subjects desired.

ADVANCED STANDING

Students making application for advanced credit must present credentials showing that they have successfully pursued the branches in which they desire credit in a standard college or if admission to the senior class is desired they must furnish certificate showing that they have successfully passed the junior examinations in a reputable college of pharmacy.

ESTIMATE OF STUDENT'S EXPENSES

	Low	Average	Liberal
Matriculation fee (paid but once)..	$ 10 00	$ 10 00	$ 10 00
Tuitition.....	50 00	50 00	50 00
Books and stationery.....	15 00	20 00	30 00
Laboratory breakage.....	00	1 25	2 00 up
Room (36 weeks).....	18 00	36 00	54 00 up
Board (36 weeks).....	63 00	90 00	126 00
Laundry.....	9 00	15 00	20 00
	$165 00	$222 25	$292 00 up

There are no dormitories or commons in connection with the university. Clubs are formed in which the price of board is nominal and the price of rooms depend upon conveniences and distance from the campus.

SELF SUPPORT

Students who find it necessary to earn part of their way through college can usually find work as Iowa City with its nine thousand inhabitants furnishes many opportunities for employment.

The Y. M. C. A. and the dean of women have established employment bureaus especially for the use of students.

PRIZES

LINDLY PRIZE

By the liberality of Mr. John M. Lindly, a prize consisting of Britton & Brown's Illustrated Flora is offered to the student of the senior class who shall bring from his home county the

best herbarium of not less than fifty plants. The candidate before receiving the prize must become a member of the university pharmacy alumni association, and the collection shall become the property of Mr. Lindly.

ALUMNI ASSOCIATION PRIZE

The Alumni Association of the college extends a free membership to the member of the graduating class attaining the highest general average in all branches.

Awarded in 1903 to Adin N. Brown of Missouri Valley, Iowa.

MEMBERSHIP IN A. PH. A. PRIZE

Membership in the American Pharmaceutical Association is offered by Professor Wilber J. Teeters to the member of the senior class who by competitive examination is rated highest in recognition and description of organic drugs.

Awarded in 1903 to Adin N. Brown of Missouri Valley, Iowa.

ALUMNI ASSOCIATION

The Alumni Association takes a deep interest in the work of the college. Yearly meetings are held during commencement week and the procedings of the association are published together with the register of alumni. Officers for 1903-'04 are as follows:

President—H. E. EATON, Essex, Iowa.

First Vice-President—W J. DOYLE, Davenport, Iowa.

Second Vice-President—W. L. WATTERS, Wellman, Iowa.

Recording Secretary—A. N. BROWN, Iowa City, Iowa.

Corresponding Secretary—W. F. JUNGER, Reinbeck, Iowa.

Treasurer—J. S. MUTCHLER, Iowa City, Iowa.

Executive Board—W. F. WEBBLES, Iowa City; F. W. MILLER, Homestead; ZADA M. COOPER, Iowa City, Iowa.

Alumni are requested to keep the secretary informed of change of address.

STUDENTS IN ALL THE COLLEGES

THE COLLEGE OF LIBERAL ARTS

DEGREES CONFERRED JUNE, 1908

BACHELOR OF ARTS

Dalton, Ula Elizabeth
Dykstra, Clarence Addison
Eaker, Jay Felts
Elliott, Ethel Anna
Gardner, Frances Maud
Gay, Anna May
Greene, Galen Edwin
Hayes, Elenora Byington
Jarvis, Carolyn Belle
Kampmeier, August
Kelley, Richard Carlyle
Krebs, Robert D.
McClain, Henry Griffiths
Mueller, Otto Henry
Murphy, Genevieve Beatrice
Nealley, Edward Moses
Padmore, Julia Rachel
Pratt, Mrs. Margaret Allie Tobin
B. Di., 1900
Iowa State Normal
Quigley, Marjorie
Switzer, Katherine May
Watson, Harry Chibnail
Whitley, Gladys Call

BACHELOR OF PHILOSOPHY

Albert, Fred Jr.
Anderson, Rudolph Martin
Aurner, Clarence Ray
M. Di., 1891,
Iowa State Normal
Aurner, Mrs. Nellie Slayton
Barrett, Jacob Edward
Berryhill, James Guest, Jr.
Blackmar, Harry E.
M. Di., 1894,
Iowa State Normal
Bozarth, Maud
M. Di., 1899,
Iowa State Normal
Brown, Maud Anna
Burmeister, August Otto
Carter, Edward Albert
Cooper, Esther Leiper
Curtis, Alice Bertha
B. Di., 1896,
Iowa State Normal
Dakin, Amy Dorothy
Drewry, Ray Forest
Eddy, Mary Louise
Edmondson, Charles Howard
Fenton, Jennie Inez
Fish, James Wilson
Foster, Blanche Fairfax
B. Di., 1898,
Indiana State Normal

Harris, Fred Elwon
Heminger, Amos Lincoln
Hermann, Cornelia Josephine
Hess, Adam Konigmacher
Hill, George Edgar
Hossfeld, Eleanor
Huggett, J. Percival
M. Di., 1892,
Iowa State Normal
Hussey, Lena Alice, Independence, B. Di., 1893,
Iowa State Normal
Hutchison, George Gaylord
Johnson, Henry Charles
Keck, Walter L.
Kelley, Edmund Levi, Jr.
Kemmerer, Charles Tilghman, Jr.
Kemmerer, Leila
Kemmerer, Sarah Dorcas
Loizeaux, Jennie Olive
McLaughlin, Eleanor
Macbride, Jean
MacKellar, Jennie Edith
M. Di., 1900,
Iowa State Normal
Mathews, Lillian Ruth
May, Samuel Thomas
1890,
Northern Indiana Normal
Merritt, Edith Whitney
Meyerholz, Charles
M. Di., 1898,
Iowa State Normal
Moravec, Agnes Emma
Morton, Helen Louise
Pierce, Juliette
B. Di., 1901,
Iowa State Normal
Rall, Carolyn Louise
Reed, Ivy Leslie
M. Di., 1900,
Iowa State Normal
Resser, Jesse
Roach, Lena
Rohde, Mrs. Sara Phelps
Scallon, Hubert William
M. Di., 1901,
Iowa State Normal
Schenk, Casper
M. Di., 1899,
Iowa State Normal
Spangler, Harrison Earl
Stefansson, Vilhjalmr
Wassam, Clarence Wycliffe
M. Di., 1900,
Iowa State Normal

BACHELOR OF SCIENCE

Benson, Ernest Allen
B. A., 1900,
Western College
Charlton, Max Rosecrans
Clapp, Albert Carpenter
Cronin, Sarah Elizabeth
Hanson, Clarence Henry
Johnson, Eliza Love
Joynt, Martin John
Matson, John Archie
Nugent, Francis
Pratt, Harlow Munson
Speidel, Ida Theresia
Walsh, John Graney
Ward, Martha Viola
Welch, Hershey Samuel
West, Clifford Bateman

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Carlson, Ernest Emil
Choate, Rufus Clark
Currier, Albert Moore
B. A., 1902
Hagler, Elisha Marion
McVay, Albert Dennis
B. Ph., 1902
Page, Charles Price
Sweney, Marshall Charles
Wright, Charles Oliver

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Call, Roy Guyon
Stover, Samuel Kirkwood

DEGREES CONFERRED SINCE JUNE, 1903

BACHELOR OF ARTS

Moore, Ella Elizabeth

BACHELOR OF PHILOSOPHY

Swaggart, Luman Birch, M. Di., 1898, Iowa State Normal

BACHELOR OF SCIENCE

Ballard, George Henry, M. Di., 1900, Iowa State Normal
Kent, Carleton Volney

The following students completed the requirements later and have been recommended by the faculty to the board of regents for degrees as indicated:

BACHELOR OF ARTS

Beaulieu, Leo Victor
Fleming, Ruth

BACHELOR OF PHILOSOPHY

Swire, Ethelind
Voss, Hertha Louise

SENIORS

Adams, Waldo Johnson	Sci.&Dent.c	Eugene, Oregon
Alexander, Bertha Evelyn	Phil.	Burlington
Allen, Burritt Steward	Phil. & L. c.	Laurens
*Barber, Francis Adams	Sci.	Estherville

M. Di., 1901, Iowa State Normal

*The asterisk indicates that the students whose names it precedes were in attendance at the university during the summer session only.

Barthelow, Claude Alpheus	C. E.	Yale
Bedford, Lyman Daniel	Ph.B&L.c.	Hudson
Blaine, Lela Rebecca	Phil.	Council Bluffs
Blum, Daisy Pearl	Cl.	Rossville
Brackney, Herbert Winfield	Ph.B.& L.c.	Washta
Brainerd, Helen Louise	Ph. B.	Iowa City
Bryson, Harold Lewis	Ph. B.	Iowa City
Burgum, Harry Pitkin	C. E.	Oelwein
Chesley, Frank Ephraim	C. E.	Iowa City
Cogswell, John Wilkinson	Sci.	Cedar Rapids
Crane, Ernest B.	C. E.	Dexter
Cross, Cash R.	Sci. & L.c.	Iowa City
Curtis, Cora Gertrude	Phil.	Allison
M. Di., 1898, Iowa State Normal		
Cushing, Raymond George	Cl. & L. c.	Exira
Davis, Odin Royston	Ph. B.	Eldora
Donovan, Louis Patrick	Ph. B.	Eagle Grove
Dorweiler, Paul	Sci.	West Bend
Dye, Harvey Leroy	C. E.	Macedonia
Eckhard, George Frederick	C. E.	Cedar Falls
M. Di., 1900, Iowa State Normal		
Edgerton, Robert Henry	Ph. B.	Muscatine
Foster, Charles Clarence	C. E.	Iowa City
Gates, Ernest H.	E. E.	Sheldon
Gilbert, Harold Brayton	Phil.	State Center
Hardman, Roy Cordis	C. E.	Tipton
Heard, Mary Kathrina	Ph. B.	North East, Penn.
Ph. C., 1892, The University of Michigan		
Hellberg, Will Fred	Ph. B.	Anamosa
Hill, Eddy Cecil	Phil.	Nashua
M. Di., 1900, Iowa State Normal		
Hockett, Seburn Waldo	Sci.	Earlham
Hodge, Lida Jane	Ph. B.	Indianola
Hoffman, Mable V.	Cl.	Muscatine
Hunt, Heman Doud, Jr.	Phil. & L.c.	Shell Rock
Ivins, Harry Morgan	Sci.	Grundy Center
Jackson, Edwin Roy	Sci.	Avoca
Johnson, Joel Ernest	Ph. B.	Ireton
M. Di., 1900, Iowa State Normal		
Johnson, Joseph Oliver	Ph. B.	Cedar Falls
M. Di., 1897, Iowa State Normal		

Johnston, Edward Ray	Ph.B.& L.c.	Iowa City
Kastman, Valborg	Cl.	Cambridge, Mass.
Kern, Frank Dunn	Sci.	Reinbeck
Kleinsorge, Rudolph Ernst	Sci.	LeMars
Knupp, Samuel C.	Sci.	Garrison
M. Di., 1902, Iowa State Normal		
Kriechbaum, Bertha Emily	Ph. A.	Burlington
Kunz, John Franklin	Ph. B.,	Wesley
Lambert, Emma Frances	Phil.	Cedar Falls
M. Di., 1897, Iowa State Normal		
Landers, Lou Cornelia	Sci.	Webster City
Lauer, Arnold William	Ph. A.	Winfield
Lewis, Laura Iowa	Sci.	Macedonia
Lilly, Fanny Parmer	Phil. A.	Burlington
Longstreth, Oscar Dolsen	Sci.	Muscatine
M. Di., 1808, Iowa State Normal		
Lynch, Alice Marie	Phil. A.	Sioux City
McCrory, Samuel Henry	C. E.	Ireton
McLane, Arthur C.	Phil.	Deepriver, N. D.
Magowan, Florence Nettie	Ph. B.	Tama
Martin, George Henry	Sci.& Med.c.	Iowa City
*Martin, Katheryn	Ph. A.	Iowa City
Meakim, Roger Joseph	Sci.	West Burlington
Melzner, Arthur Burdell	Ph. B.	Yankton, S. D.
Miles, Lulu	Sci.	Lineville
Moffatt, Burnam A.	C. E.	Marshalltown
Moffitt, Chester Earl	Ph. B.	Fonda
Morris, Mary Makepeace	Ph. A.	Atlantic
Moulton, Lulu	Ph. A.	Maquoketa
Murray, Mary	Ph. B.	Maquoketa
Neander, Victor Theophilus	Ph.B.& L.c.	Sheyenne, N. D.
Nelson, Edmund Christian	Phil.	Iowa City
M. Di., 1897, Iowa State Normal		
Newman, Clarence Adelbert	Ph. A.	Edgewood
Nugent, Francis	C. E.	Iowa City
B. S., 1903		
Paine, Sarah Olivia	Ph. A.	Iowa City
Pattie, Martha	Phil.	Storm Lake
Porter, Mary Monta	Cl.	Albia
Preston, Clara Carlton	Ph. B.	Elkader
Raguet, Marguerite	Ph. A.	Davenport

Royal, Malcolm Allen	Sci.	Des Moines
Rule, Edward A.	Sci.	Des Moines
Rutledge, Herbert Alvin I.	Sci.	Williamsburg
B. M. E., 1894, Iowa State College		
Savage, John Elton	Ph. B. & L. c	Hebron
Schaefers, Rose Theresa	Ph. B.	Clermont
Schenck, Charles Plume	Sci.	Burlington
Schneider, Daniel Detrich	Phil & L. c.	Hinton
M. Di., 1902, Iowa State Normal		
Seerley, Clem Clifford	Sci.	Cedar Falls
M. Di., 1901, Iowa State Normal		
Smith, Maude Louise	Ph. B	West Liberty
Speidel, Mae Elizabeth Agnes	Cl.	Iowa City
Sporleder, Mary Louise	Ph. A.	Iowa City
Stewart, Rolland Maclaren	Cl.	Toledo
Taylor, Maude Estella	Sci.	Iowa City
Thomas, Abram Owen	Ph. A.	Williamsburg
Thomas, Seth	Ph. A.	Letart, W. Va.
Thompson, John Wesley	Ph. B.	Wapello
Weber, Harry	Sci.	Mt. Pleasant
Welch, David Sewall	Sci.	Glenwood
Welch, Hershey Samuel	C. E.	Iowa City
White, Warren Henry	Cl. & L. c.	Iowa City
Wiehr, Josef	Phil.	Iowa City
Willis, Harry Douglas	C. E.	Iowa City
Wilson, Clara Rosa	Phil.	Iowa City
Wolf, Bertha Sarah	Ph. A.	Tipton
Young, Iowa Madge	Cl.	Iowa City

JUNIORS

Aardappel, Walter	C. E.	Sioux Center
Achenbach, Emma Elizabeth	Sci.	Gladbrook
M. Di., 1902, Iowa State Normal		
Anderson, Harold Charles	Ph. A.	Oelwein
Baker, Earl Smith	Phil.	Nichols
M. Di., 1900, Iowa State Normal		
Ballard, Martha Frances	Sci.	Davenport
Ballard, Mary Elizabeth	Ph. B.	Iowa City
Barrett, Edward Cecil	Ph.A.	Burlington
Beauchamp, Bertha Ewing	Cl.	Bedford
Berry, John Williams	C. E.	Iowa City

Blakely, Ernest Reuben	C. E.	Corydon
Boerner, Edna Louise	Ph. A.	Iowa City
Boies, Harry Edward	Ph. B:	Missouri Valley
Brant, Lucy Winifred	Phil.	Iowa City
Brinton, William Thomas	Phil.	Brighton
Brown, Earl	Ph. A.	Emmetsburg
Buffum, Mary Susan	Ph. B.	LeRoy
Burnquist, Bert Blaine	Ph. A.	Ft. Dodge
Call, Merlyn Bush	Cl.	Iowa City
Carlson, Christian R.	Ph. B.	Humboldt
Chase, Nellie Althea	Ph. A.	Waterloo
Crane, Agnes May	Phil.	Mason City
Danielson, Henry Clarence	C. E.	Lamoni
Daum, Philip Hugh LL. B. 1901	Sci.	Davenport
Davies, Robert Geiser	Cl.	Emmetsburg
DeHart, Otto Dell	C. E.	Milton
DeSellem, Ann Louise	Ph. B.	Iowa City
Drake, Guy Arthur	Ph. B.	Adel
Emmert, Max Washabough	Cl.	Atlantic
Fay, Wylie Webb	Ph. B.	Nevada
Files, Ray	Ph. B.	Iowa City
Finkbine, Robert Hoyt	Sci.	Des Moines
Gabriel, Grace Ethel	Cl.	Des Moines
Goetz, Antoinette	Ph. B.	Iowa City
Goodwin, James Edwin	Sci.	Burt
Gordon, Arthur Clarkson	Cl.	Iowa City
Gordon, Pearl Avis	Ph. B.	Hamilton, Ill.
Gregory, Horace Whiting	C. E.	Denison
Griffith, Dwight Moody	Cl.	Iowa City
Griffith, Mary Caroline	Ph. A.	Iowa Falls
*Hadley, Herbert Erwin LL. B., 1903	Ph. B.	Badger
Hayden, Clara May	Sci. & M. c.	Eldon
*Hennessy, Edward Francis	Ph. B.	Iowa City
Hershire, Richard Aaaron	C. E.	Iowa City
Hinkle, Bessie Catherine	Ph. B.	Harvard
Hinkle, Jessie Ellen	Ph. B.	Harvard
Hoar, Mary Elizabeth	Phil.	Iowa City
Holmes, Grace Maude	Phil.	Waterloo
Hummer, Sarah Agatha	Ph. B.	Iowa City

Hutchinson, Everett Ross	Phil.	Allerton
Hutchinson, Martha	Phil.	Carlisle

M. Di. 1899, Iowa State Normal

Kerstetter, Susan	Cl.	La Porte City

M. Di. 1903, Iowa State Normal

Kimple, Mae Belle	Ph. B.	Corydon
Knapp, Carl William	Cl.	Fremont, Neb.
Long, Cecile Florence	Cl.	Bedford
Louis, Anna	Sci.	Harlan
Lynn, Margaret May	Phil.	Iowa City
McAuliff, Leslie	Cl.	LeMars
McClintock, Calvin Terry	Sci.	Iowa City
McCullough, Clara Elizabeth	Phil.	Osage

M. Di. 1903, Iowa State Normal

McVay, Mary Alice	Ph. B.	Iowa City
Main, Herman Charles	Cl.	Algona
Marick, George Louis	C. E.	Allerton
Marsh, Ruth Maria	Cl.	Charles City

M. Di. 1901, Iowa State Normal

Merritt, Mabel Clough	Ph. A.	Iowa City
Metzger, Belle Agnes	Cl.	Iowa City
Metzger, Della Elizabeth	Cl.	Iowa City
Meyer, Jacob William	Ph. B.	Orange City
Miles, Mabel	Sci.	Lineville
Miller, Dalton Giles	C. E.	Guthrie Center
Moler, Ida Muriel	Phil.	Kinross
Moling, Lura May	Phil.	Iowa City
Morgan, Frank Sonun	Ph. A.	Harlan
Naberhuis, Henry Albert	C. E.	Sioux Center
*Naftzger, Jesse Blaine	Sci.	West Liberty
Negus, Joseph Elisha	C. E.	Iowa City
Nichols, Ethel Gay	Ph. A.	West Liberty
Parish, John Carl	Phil.	Cedar Falls

M. Di. 1902, Iowa State Normal

Patton, Ruby Emma	Sci.	Newton
Pelzer, Louis	Phil.	Alantic

M. Di. 1901, Iowa State Normal

Phelps, Henry Hurst	Sci.	Springdale
Phelps, Howard Lynn	C. E.	Springdale
Pickett, Mrs. Lena Elson	Sci.	Lineville

Quigley, Samuel	Cl.	Iowa City
B. Di. 1895, Iowa State Normal		
Randall, Ray	Sci.	Denison
Redfield, Roy Adis	Phil.	Ruthven
Rink, Clarence William	Ph. B.	Shelby
Roberts, Jennie Ellen	Ph. A.	Iowa City
Ross, Carl Wesley	Cl.	Des Moines
Schultz, Clara Mary	Ph. A.	Burlington
Sebern, Nellie Brewer	Cl.	Vinton
Seydel, Fred	Ph. B.	Iowa City
Shaw, John Austin	C. E.	Vinton
Sherwood, Elizabeth Julia	Cl.	Iowa City
Siemen, Edward Anthony	C. E.	Sioux Center
Skelley, Silas Emmett	Ph. B.	DeWitt
Smith, Matilda Annie	Ph. B.	St. Ansgar
Snedicor, Fred Elwyn	Ph. B.	Cherokee
Soesbe, Carrie May	Cl.	Greene
Struble, Isaac Irving	Sci.	LeMars
Sunier, Bertha	Cl.	Iowa City
Swaine, Robert Taylor	Phil.	Council Bluffs
Tweed, Horace Anton	Sci.	Forest City
VanDe Steeg, George Herbert	Ph. B.	Orange City
Van der Zee, Jacob	Cl.	Sioux Center
Veblen, Gertrude Ingeborg	Phil.	Iowa City
Veblen, Signy Arndora	Ph. A.	Iowa City
Waldron, Alice Margaretta	Ph. A.	Greenfield
Waterbury, Ella Irene	Cl.	Iowa City
Watson, Emery Earnest	Sci.	Stockport
M. Di. 1901, Iowa State Normal		
West, Philip Cecil	Cl.	Irwin
Whedon, Arthur DeWitt	Sci.	Iowa City
Wheeler, Forest Z.	Sci.	Cedar Falls
M. Di. 1902, Iowa State Normal		
Whitacre, Max	C. E.	New Sharon
Wiley, Stella Lucile	Ph. A.	Castana
Wille, Otto Victor	Sci.	Iowa City
Williams, Etta Louise	Ph. B.	Parkersburg
Williams, Mary Florence	Cl.	Iowa City
Wright, Arthur Hemmerling	C. E.	Cedar Falls
M. Di. 1903, Iowa State Normal		

Wright, Luella Margaret	Phil.	Cedar Falls
M. Di. 1901, Iowa State Normal		
Wright, William Coutts	C. E.	Tipton
Wyland, Benjamin Franklin	Ph. A.	Harlan
Young, Hugh Edward	C. E.	Anamosa
Yule, Mildred Rebecca	Sci.	Tipton

SOPHOMORES

Albright, George Carter	Ph. B.	Danville
Baird, Justus Nathan	Phil.	Keosauqua
Banta, George Sherman	Phil.	Manchester
Battles, Perle Mae	Sci.	Maquoketa
Bean, Arthur Neal	Sci. & M. c.	Eagle Grove
Beatty, Floyd James	Sci.	Tipton
Bissell, Beulah Davies	Phil.	Independence
Blum, Effie Clare	Ph. B.	Rossville
Bolton, Edwinna Rose	Phil.	Tomah, Wisc.
Bos, Garrett	E. E.	Pella
Boysen, Laura Maria	Phil.	Glenwood
Bradley, Benjamin Graham	C. E.	Iowa City
Bradley, Frank Timothy	Sci. &. M. c.	Iowa City
Brainerd, Howard Hatch	Phil.	Iowa City
Breckerbaumer, Harry Ernest	Sci.	Lewis
Breese, Garfield Eugene	C. E.	Iowa City
Brown, Augusta	Phil.	Wall Lake
Bruins, William John	C. E.	Sioux Center
Buckley, Grace Emma	Phil.	Shelby
Burge, Edith	Phil.	Iowa City
Burkheimer, Ira Arthur	Phil.	Creston
Burton, Clifford Edgar	Sci.	Yorktown
Butler, William Pinkey	Cl.	Marshall, Texas
Carroll, Frances Alma	Phil.	Harlan
Casey, James Wesley	Ph. B.	Correctionville
Champion, Roy B.	E. E.	Iowa City
Clearman, Louise Isabella	Cl.	Iowa City
Coffin, Frank W.	Sci.	Columbus Junction
Cooper, Frederick Richard	Phil.	Ottumwa
Corso, Ignatia	Phil.	Iowa City
Coulter, Wilbur Edwin	Phil.	Burlington
Crossan, John Wesley	Phil.	Eldora
Darland, Grace	Sci.	Iowa City

Davidson, Orin Victor	Phil.	Burlington
Dean, Basil	C. E.	Spencer
Doll, Clara	Phil.	Iowa City
Doty, Eula	Phil.	Larned, Kan.
Dow, Harry Earnest	Cl.	Denmark
Duncan, Cleveland Reuben	Sci.	Iowa City
Dunlap, Marcia	Ph. A.	Ofallon, Mo.
Easton, George Eugene	Ph. B.	Strawberry Point
Ebersole, Edwin Christian	Phil.	Iowa City
Eckhardt, Henry Jacob	C. E.	Davenport
Edinger, Paul Frederick	Cl.	Davenport
Felt, Stanley Evans	Phil.	Des Moines
Ferguson, Rose May	Phil.	Cherokee
B. Di. 1898, Iowa State Normal		
Fitz, Earle Moore	Phil.	Panora
Fitzgerald, Edward Clarence	Phil.	Rock Rapids.
French, Hiram Earl	Sci.	Humboldt
French, Royal F.	Phil.	Humboldt
Hannum, Roy Findley	Phil.	Winfield
Hemmer, Emil John	C. E.	Iowa City
Hobby, William Richard	C. E.	Iowa City
Hutchison, Raymond Orrin	Phil.	Lake City
Illick, John Theron, Jr.	Phil.	Burlington
Isenberg, Irving Ray	C. E.	Green Mountain
Jacobs, Sadie	Phil.	Burlington
Jamison, Jeannette	Phil.	Burlington
Jones, Ralph Emerson	Phil.	Williamsburg
Jones, Wata Jane	Ph. B.	Iowa City
Joy, William Bixby	Phil.	Iowa City
Kolkofen, William Henry	Ph. B.	Decatur City
Kettlewell, Wallace Irwin	C. E.	Iowa City
King, Lylas Sarah	Ph. B.	Grundy Center
Knauer, Eda Dorothy	Phil.	Des Moines
Koeper, Frank Earnest	M. E.	Marshalltown
Lancaster, Alice May	Phil.	Le Claire
Lemon, Frank Carl	Sci.	Guthrie Center
Loizeaux, Cecelia Adelaide	Ph. B.	Des Moines
Long, Pearl	Ph. B.	Davenport
Luce, Fred Leslie	Phil.	Villisca
McFadden, George Joseph	Phil.	Atalissa
Meade, Emery Linn	C. E.	Clinton

Middleton, William Drummond	Sci.	Davenport
Miller, Margaret Jane	Phil.	Iowa City
Minert, James Garfield	C. E.	Waukon
Mingus, Florence Mary	Phil.	Iowa City
Moon, Herbert Lovelace	Sci. & M. c.	Iowa City
Moore, Fred	Phil.	Harlan
Mueller, Louis Francis	Cl.	Iowa City
Odell, Florence Margaret	Phil.	Iowa City
Ogden, Elizabeth Jane	Phil.	Willamsburg
Pahlas, Henry Martin	Sci. & M. c.	Elkader
Parish, Jessie Augusta	Sci.	Iowa City
Paulson, Caroline H.	Phil.	Britt
Paulus, Martha Ann	Phil.	Iowa City
Payne, Paul Marvin	Phil.	Linden
Pentecost, Verne Reynolds	Sci.	Panora
Perrine, Peter Ralph	Sci.	Burlington
Portlock, Beth M.	Sci.	New London
Price, Hiram	Phil.	Iowa City
Price, Mildred	Cl.	Iowa City
Pritchard, Kirkwood Alexander	C. E.	Iowa City
Quigley, Louis Leroy	Phil.	Iowa City
Quigley, Robert Crozier	Phil.	Iowa City
Randall, Clifford Alonzo	C. E.	Denison
Remley, Alice	Phil.	Iowa City
Rider, Thomas Thiel	Sci. & D. c.	Iowa City
Rinker, Purley	Phil.	Seymour
Rittenmeyer, Adelaide Alice	Phil.	Iowa City
Robinson, Agnes Louise	Phil.	Council Bluffs
Robinson, Vincent James	Phil.	Harlan
Royal, Myrtle Emeline	Phil.	Des Moines
Ruby, Sarah Amelie	Phil.	Lake Mills
Ruff, Edward John	C. E.	Wilton Junction
Salisbury, Herbert John	Phil.	Cresco
Sangster, Frank	Ph. B.	Iowa City
Schaeffer, Oma Georgia	Ph. B.	Iowa City
Seemann, Fred Julius	C. E.	Iowa City
Seidel, Earl Reinholdt	M. E.	Portland
Shedd, Verna May	Phil.	Council Bluffs
Sheldon, Celia Helen	Phil.	Victor
Smith, Addie Mahala	Phil.	Duluth, Minn.
Stearns, Robert Wilson	Sci.	Webster City

Steere, Kenneth David	Phil.	Iowa Falls
Stevens, James Merrill	E. E.	Sheldon
Stone, Edna Pearl	Phil.	Burlington
Stoner, Nellie Dae	Cl.	Iowa City
Stookey, Marion	Phil.	Leon
Stratton, Frances Eleanor	Ph. B.	Iowa City
Swanson, Julia Elmida	Cl.	Webster City
Swisher, Alice	Phil.	Iowa City
Tupper, Eliakim William	C. E.	Osage
Van Ness, Orpha May	Phil.	Centerville
Volland, Mrs. Mabel Montgomery	Phil.	Iowa City
Wachs, Anna Frances Rosaline	Phil.	Iowa City
Wallace, Arthur Clarence	Sci.	Rock Rapids
Waterbury, Flora Avis	Sci.	Iowa City
Watters, Henry Bertram	C. E.	West Liberty
Weber, Eva	Phil.	Corning
Weinrich, August Fred	Phil.	Burlington
West, George Parsons	Cl.	Sioux City
West, Myrta Gertrude	Cl.	Irwin
Whitley, Merle Lord	C. E.	Osage
Wichman, Henry	E. E.	Malcolm
Wilson, Mary Brent	Phil.	Ottumwa
Woods, Mary Louise	Ph. A.	Iowa City
Wright, Bert J.	C. E.	Plato

FRESHMEN

Abrams, Adah Louvae	Phil.	Iowa City
Adams, Robert Perry	Sci.	Solon
Alt, Grace E.	Phil.	Iowa City
Anders, Mae Corinne	Cl.	Iowa Falls
Anthony, Mabel	Sci.	Iowa City
Armstrong, Alice Isadora	Sci.	Allerton
Askwith, Horace Abner	Phil.	Council Bluffs
Bailey, Hugh Lee	C. E.	Iowa City
Bailey, Sadie Lydia	Phil.	Iowa City
Barnes, Harlan Ward	Phil.	Eagle Grove
Barrow, Mary Modestas	Phil.	Iowa City
Baughn, Herbert Adams	E. E.	Harlan
Bevins, Nathan Sidney	Sci.	Hawkeye
Blair, Reuben Wiliam	Sci.	Columbus Junction
Boyce, Mary Mable	Phil.	Iowa City

Bracewell, Edna	Sci.	Allerton
Bridgens, John Guy	Phil.	Eldora
Burgess, Joseph Henry	C. E.	Cresco
Churchill, Edward Perry	Phil.	Allerton
Cohoon, Brock Edwin	Phil.	Emmetsburg
Coyle, Claude Ham	Phil.	Humboldt
LL. B. 1908, Humboldt College of Law		
Crockett, Grace Cathryn	Phil.	Iowa City
Cunningham, Fred Joseph	Phil.	Allerton
Daley, John Grant	Sci.	Harlan
Davis, Harold Ray	C. E.	West Branch
DeVries, George	Phil.	Parkersburg
Doring, Henry Oltman	Cl.	LeMars
Eaton, Arthur J.	Phil.	Waukon
Edwards, Evie James	Sci.	Williamsburg
Eichorn, Charles Raymond	Sci.	Atlantic
Emmons, Olin Joseph	E. E.	Iowa City
Felkner, William Willard	Sci.	Iowa City
Field, Herbert O.	Sci.	Ainsworth
Fieseler, Mary Alice	Phil.	Iowa City
Frazier, Sebena Schoonover	Sci.	Nevada
French, Leslie Ray	Sci.	Hawarden
Fullerton, Robert Parsons	Sci.	Des Moines
Galloway, William Traver	E. E.	Chicago, Ill.
Gittins, Gertrude	Phil.	Williamsburg
Glass, Remley John	Phil.	Mason City
Godown, Elmer	Sci.	Linden
Griepenburg, Milf Menken	Phil.	Kingsley
Hanson, George B.	Phil.	Britt
Hatch, Edward J.	Sci.	Hamburg
Hayes, Fannie Belle	Phil.	Denison
Healy, William	Ph. A.	Lisbon
Heinsius, Cecil Mercedes	Cl.	Iowa City
Hemsing, Maurice Abreo	Sci.	Stoughton, Wisc.
Hershire, Elizabeth Akers	Sci.	Iowa City
Higley, Hazel Elizabeth	Phil.	Iowa City
Hinsch, Van Buren	C. E.	Davenport
Holiday, Sadie Gregg	Phil.	Burlington
Holmes, Anna Ann	Sci.	Waterloo
Hoth, Louis	C. E.	Mexico City, Mexico
Hubbard, Elbert Hamilton, Jr.	Cl.	Sioux City

Jones, Laurence Clifton	Phil.	Marshalltown
Joyce, Edward	Sci. & M. c.	Dunlap
Kelley, Mary Frances	Phil.	Sigourney
Kern, Edna	Phil.	Reinbeck
Kimble, Howard	C. E.	Clear Lake
Koser, Mary Glee	Phil.	Iowa City
Kramer, Raymond Carl	Sci.	Elkader
Krebs, Harry DeWolfe	Sci.	Cedar Rapids
Lee, Albert Walter	C. E.	Iowa City
Lee, Roy Thomas	Sci.	Iowa City
Lefevre, Samuel Lord	E. E.	Iowa City
Leith, George Guyford	Sci.	Wilton Junction
Le Van, Alvin	C. E.	Guthrie Center
Lloyd, William Harry	Phil.	Brighton
Lorenzen, Lorenz	Phil.	Denison
Lyon, Myra	Phil.	Iowa City
McCann, Charles Raymond	C. E.	Springdale
McCoy, Bert	Phil.	Knoxville
McEachran, Annie Mary	Phil.	Williamsburg
McGowan, Mollie Palmer	Cl.	Clear Lake
McIntoch, Lachlan Arthur	Phil.	Atalissa
McKee, Leander Ramsom	C. E.	Muscatine
McKirahan, Henry Hershel	C .	Cincinnati, Ohio
Main, Norman Charles	Phil.	Algona
Maynard, Mignon J.	Cl.	Council Bluffs
Mercer, Carrie Pearl	Phil.	Iowa City
Mercer, Henry Virgil	C. E.	Iowa City
Merrill, Dayton Eugene	E. E.	Bear Grove
Meyers, John Frederick	E. E.	Ida Grove
Miles, Donald Webster	Phil.	Eldora
Miller, Grace E.	Phil.	Muscatine
Morrison, Francis Guy	C. E.	Iowa City
Murray, John Adolph	Sci.	Little Sioux
Neustadt, George Auerbach	Sci.	LaSalle, Ill.
Newcomb, Gertrude Kimball	Sci.	Shell Rock
O'Brien, Edith Frances	Phil.	Iowa City
Oehler, Lucile	Sci.	Iowa City
Ogden, Glenn Rosamond	Cl.	Williamsburg
Olen, Hubert Leonard	Cl.	Paullina
Oliver, Ralph Addison	Cl.	Onawa
Olson, William Harold	Sci.	Rock Rapids

Peirce, Clarence Andrew	Phil.	Ithaca, N. Y.
Peterman, Thomas Blaidsdell	M. E.	Lead, S. D.
Quaife, Helen Seraine	Cl.	Nashua
Randall, Esther Joy	Sci.	Iowa City
Rhynsburger, Dick Cornelius	Sci.	Orange City
Riley, Will Francis	Phil.	Burlington
Ritz, Philip Embury	Phil.	Sergeants Bluffs
Rorick, Elroy Edward	Phil.	West Branch
Russell, Stella Maude	Phil.	Tiffin
Sanford, William Allen	Sci.	Kansas City, Mo.
Schichtl, Mary Elizabeth	Phil.	Algona
Schultz, Benjamin Franklin	Sci.	Tipton
Schwimley, Nellie Ethel	Sci.	Iowa City
Scroggs, Thomas Berryhill	Sci.	Beresford, S. D.
Severa, Lumir	Sci.	Cedar Rapids.
Shalla, Lizzie May	Phil.	Iowa City
Sieg, Walter Russell	Sci.	Marshalltown
Soukup, Edward	E. E.	Cedar Rapids
Sterrett, George Cleo	Phil.	Deep River
Stone, Merle Rufus	Sci.	Hawarden
Swire, Edith Margaret	Phil.	Iowa City
Topping, Clyde Hamilton	Phil.	Burlington
Townsend, Idablanche	Cl.	Le Mars
Treynor, Albert McKune	Phil.	Des Moines
Van Der Meide, Hubert John	Sci.	Orange City
Veblen, Harold	E. E.	Iowa City
Vermillion, Clara Marinza	Phil.	Iowa City
Washburn, Alma Sylvia	Phil.	Lead City, S. D.
Watters, Carrie Charlotte	Phil.	Irwin
White, Tullius Vernon	Cl.	Iowa City
Will, Frank Arthur	Sci. & M. c.	Des Moines
Williams, Bertha May	Sci.	Barnes
Williams, Leigh Lawrence	Cl.	Iowa Falls
Willis, Earl Clifton	Phil.	Clarksville
Wilson, Frank Robert	Phil.	Sioux City
Wilson, Malcolm Earl	Sci.	Rock Rapids

UNCLASSIFIED

Adams, Mae	Iowa City
*Ady, Wilma Evans	West Liberty
Bain, Elizabeth Jane	Webster City

B. Di., 1898, Iowa State Normal

Balle, Sophia Margaret	Denison
Ballou, John Kendrick	Iowa City
Berry, Florence Ridgeway	Iowa City
Bockenthien, Bertha Madeline	Des Moines
*Bowman, Bessie	Lyons
Bracewell, Esther	Allerton
Bryson, Mrs. Stella Gearhart	Iowa City
*Budington, Anna	Kingston, N. Y.
B. Ped. Albany Normal College 1901	
Burge, Jennie	Iowa City
*Burnett, Mrs. Marie Obert	Iowa City
Burns, Margaret Mary	Quick
*Carter, Luther Vinton	New Providence
Clapp, Alice Louise	Davenport
*Collins, Eleanor Harriet	Davenport
Converse, Alma Sadye	Iowa City
Coombs, Katherine Frances	Cedar Falls
*Craig, Mrs. Melle Campbell	Iowa City
D. O. 1903, Still College of Osteopathy	
Critz, Maude Bernadette	Iowa City
Crouse, Mary Pauline	Waterloo
Dinsmore, Florence	Kirkville
Downey, Ezekiel Henry	Memphis, Mo.
B. S. 1898, Southern Iowa Normal	
Duncan, Sylvia Edith	Iowa City
*Dunham, Clifford Scott	Dunlap
B. Di. Iowa State Normal	
Elbert, Hoyt Hugh	Des Moines
Elson, Mae	Lineville
*Evans, Morfydd Ella	Iowa City
Fink, Anna Bertha Clara	Des Moines
Frazier, Zoe Rae	Nevada
Fritzel, Carl C.	Conrad
Frost, Charles Phinehas	Washta
*Gepson, Edward D.	Dunlap
*Gleason, Grace	Eagle Grove
Goetz, Louise Elizabeth	Iowa City
*Groves, Ada Dell	Des Moines
*Hawley, Lavenia Maud	Laurens
B. Di. 1901, Iowa State Normal	
Herrick, Maude Zella	Ft. Dodge

*Holcomb, Elizabeth	Maquoketa
*Holcomb, Lillian	Maquoketa
Houghton, Hannah Lois	Norway

B. Di. 1897, Iowa State Normal

Howe, Emma Florence	Muscatine
Hubers, Henry William	Davenport
Humphrey, Nellie Elizabeth	Oelwein
Isherwood, Genevieve	LeClaire
Jayne, Arthur	Muscatine
Jaynes, Mrs. Anna Maud	Iowa City
*Johnston, Bernice	Eagle Grove
Jones, Roland Edward	Iowa City
Joy, Clarissa Jane	Iowa City
Joyce, Mary Catherine	Ft. Dodge
Kacherian, Hovhannez Sarkis	Iowa City
Kajito, Enjiro	Hyoga, Japan
Kennedy, Nellie Agnes	Iowa City
Kingsbury, Clarence Thrall	La Porte, Texas
*Klein, Elizabeth	Marion

B. Di., '92, Iowa State Normal

*Koebel, George Pendleton	West Bend

B. S., '98, Northern Illinois Normal

Landon, Pearl May	New Hampton
*Lederer, Anna Frederika	Mason, W. Va.
*Lee, Judson Fiske	Wick
*Leffingwell, Mabel Irene	North Clinton
*Leonard, Julia Maude	Springdale
Logan, Alida Frances	Chicago, Ill.
*Lyon, Zula Cynthia	Brighton
*Lyons, Inis Irene	Fayette
McClanahan, Perry Eugene	Winterset

M. Di., '99, Iowa State Normal

McKinley, Frederick William	Clermont
Mark, Edward William Bartholomew	Le Claire

M. Di., '90, Iowa State Normal

*Mayer, Florence	Iowa City
*Mayer, Mrs. Julia Bloom	Iowa City
*Mayer, Laurance	Iowa City
Metzgar, Alpheretta Catherine	Iowa City
*Moffett, Lambert Benton	Oelwein

M. Di., '91, Iowa State Normal

*Moore, Elizabeth Jane	Derby
Newton, Emery Martin	Waterloo
Nolan, Adelaide M	Iowa City
*Orr, Janie A	Maquoketa
Parry, Alice	West Branch
*Pierce, Lillie Zilphia	Manchaster
Polk, Stella May	Iowa City
Quigley, Edward Gross	Iowa City
B. Di., '00, Iowa State Normal	
Ragsdale, Adah Clare	Des Moines
Ramseyer, Christian William	Bloomfield
M. Di., '02, Iowa State Normal	
*Rate, Laura Frances	Iowa City
Reherd, Mary Louise	Geneseo, Ill.
*Richardson, George Francis	Nugent
*Ringema, Engelke Janssen	Forest City
*Roberts, Martha Frances	Cherokee
Rosenbladt, Fritz	Bayard
*Rourke, Mary	Farley
Rundell, Mabel Anne	Iowa City
*Schall, Elias Freeman	West Liberty
*Senning, John Peter	Le Mars
B. Ped. 1903, Western Union College	
Sprague, Clarence Newell	Leon
*Stoke, John Milton	Oskaloosa
LL. B. 1894	
Strange, Mrs. Anna R.	Sioux City
Strange, Joanna Gleed	Sioux City
Strickland, Mrs. May McDonald	Iowa City
*Sturm, Mrs. Isabel Currier	Iowa City
Taylor, Lewis William	Sioux City
*Thomas, Samuel Lenhart	Council Bluffs
M. Di. 1892, Iowa State Normal	
Thompson, Maynard Legrand	Muscatine
Walker, Henry Grass	Iowa City
Walker, Laura	Des Moines
Weston, Marsdon Everett	Iowa City
Wharton, Ralph Waldo Emerson	Franklin
*Whicher, Mary Eliza	Muscatine
Williams, Thomas Jefferson	Williamsburg
*Wilson, Jennie Louise	Creston, Neb.

Wolfe, Edith Pearl	Iowa City
Wood, Benjamin Donald	Humboldt
Wood, Mildred Grace	Iowa City
Yule, Anna May	Tipton

STUDENTS IN PROFESSIONAL COLLEGES REGISTERED FOR STUDIES IN THE COLLEGE OF LIBERAL ARTS

Barker, Erwin Jeremiah	Cresco
Bawden, George Stepheu	Davenport
Benedict, Byron Irvin	Ida Grove
Benshoof, Chester William	Stockton
Bowie, Louis Lee	Atalissa
Brackney, Herman John	Washta
Brown, Edwin Keech	Solon
Buckley, Fred Watson	Shelby
Burgeson, Henry Adolph	Kensett
Cadwallader, Joseph Maxwell	Ottumwa
Cammack, William	Salem
Christiansen, Jens	Waterloo
M. Di. 1901, Iowa State Normal	
Christy, Adelbert	Floris
Criswell, Raymond	Burlington
De Cou, Samuel Roland	Woodbine
Diamond, Tobias Ellsworth	Orange City
Dickson, Charles Frank	Manning
Donovan, William Henry	Oxford
Emmons, Orrin William	Iowa City
Ensley, Bruce	Iowa City
B. S., 1903, Penn College	
Garvin, Thomas Martin	Ottumwa
Gibbs, Francis Whitney	Villisca
Gorman, George Curran	Anamosa
Green, Thomas William	Sioux City
Griffin, Frank Leo	Monmouth
Haney, Homer Eddison	Oregon, Ill.
Hart, William Richard	Oelwein
Hawkinson, Oscar	Millersburg, Ill.
Hennessy, Fetix Alphonsus	Strawberry Point
Hobart, Agnes Jane	Cherokee

Kelly, James Edwin	Hudson
Kirby, James Francis	Marengo
B. Ph. 1902	
Knox, Clem	Keokuqua
Konzen, Peter Hubert	New Hampton
Lambert, Clarence Joseph	Adrian, Ill.
Langworthy; George	Massena
Lynch, John Daniel	Sioux City
McCord, Ray Afton E.	Defiance
McCoy, Edward Hugh	Dumont
McHugh, Roderick Emmet	Sioux City
McLaughlin, Joseph Edmund	Wapello
Miller, Albert Elias	Denison
Miller, Claude Melvin	Iowa City
Munger, Milton Potter	Cedar Rapids
Murphy, Frank Eugene	Iowa City
Neas, Harry Mackey	Sigourney
Negus, Mrs. Cora Weber	Iowa City
Noel, Charles Elbert	Iowa City
Rathbone, Don Quincy	Red Oak
Scallon, Hubert William	Ackley
B. Ph., '03	
Shannahan, Edwin Joseph	Iowa City
Sifford, Ross	Wall Lake
Steck, Daniel Frederick	Ottumwa
Stecker, Mrs. Bertha Elizabeth Schenck	Burlington
Thompson, Fred F	Brooklyn
B. A., '03, Cornell College	
Tinker, Francis Enos	Osborne
Ward, Everett Chapman	Renwick

THE SUMMER SESSION

THE GRADUATE COLLEGE

MATRICULATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Bell, William Bonar — Milton
M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903

Boehm, Walter Martinus — Ft. Dodge
B. S., 1902

Buffum, Hugh Straight — LeRoy
B. A., 1091; M. A., 1902

Cady, George Luther — Iowa City
B. A., 1900, Olivet; B. D., 1894, Chicago Theoiogical Seminary

Dorcas, Herbert Clifford — Iowa City
B. Ph, 1895; M. A., 1903, Columbia

Eddy, Helen May — Marengo
B. A., 1900; M. A., 1903

Ensign, Forest Chester — Council Bluffs
M. Di., 1895, Iowa State Normal; B. Ph, 1897; M. A., 1900

Louis, John Jay — Harlan
B. Ph., 1899; M. A., 1903

Weld, LeRoy Dougherty — Cedar Rapids
B. S., 1899; M. S., 1902

MATRICULATES FOR THE DEGREE OF MASTER OF ARTS

Barber, Ratherine Brainerd — Iowa City
B. Ph., 1892

Bowman, John Gabbert — Lyons
B. A., 1899

Brown, Florence Emily — Marengo
B. Ph., 1892

Collins, Edward Robert — Bloomfield
B. S., 1892
Fitch, Harry Holland — Sac City
B. A., 1902
Ford, Percy Lindsay — Le Grand
B. A., 1897, Palmer College
Gaston, Myron Clinton — Tabor
B. A., 1901, Tabor College
Huggett, J. Percival — Cedar Rapids
M. Di., 1892, Iowa State Normal; B. Ph., 1903
Johnson, Henry Charles — Decorah
B. Ph., 1903
Mahaffy, John Milton — Marion
B. Ph., 1902
Paxson, Susan — OmSha, Neb.
B. Ph., 1891
Randall, Frank Hall — Iowa City
B. A., 1902

MATRICULATES FOR THE DEGREE OF MASTER OF SCIENCE

Blythe, Edward Ellsworth — Williamsburg
B. Ph., 1900
Branson, Laura House — Iowa City
M. D., 1885; B. S., 1901
Groendycke, Clara Louisa — Gracehill
B. S., 1900
Hoover, Alden Robbins — Muscatine
B. S., 1902
Krause, Charles Schutz — Garwin
B. S., 1902
Mosnat, H. Roy — Chicago, Ill.
B. Ph. 1899

MATRICULATES NOT CANDIDATES FOR DEGREES

Achenbach, Naomi — Gladbrook
M. Di., 1900, Iowa State Normal; B. Ph., 1902
Anthony, Charles Henry — Iowa City
B. S., 1902

Brown, Maud Anna B. Ph., 1903	Marengo
Burrus, James Harvey B. A., 1901	Winterset
Carroll, Elizabeth Fawcett B. Ph., 1901	Cedar Rapids
Carroll, Nancy Grace B. Ph., 1898	Cedar Rapids
Coast, Mrs. Grace McGee B. S., 1891	Iowa City
Copeland, Helen Louise B. Ph., 1888	Iowa City
Crenshaw, Hattie Laura B. A., 1899, Coe College	Marengo
Curtis, Alice Bertha B. Ph., 1903	Allison
Duboc, Jessie Lucy B. A., 1902, Des Moines College	Oskaloosa
Duff, Gertrude May B. L., 1895, Monmouth College	Winterset
Farrell, Thomas B. A., 1902; M. A., 1903	Fonda
Ford, Mrs. Charity Joanna B. A., 1895, Antioch College	Le Grand
Fowler, Kate Marcia B. Ph., 1900, Coe College	Clinton
Geyer, Ellen B. Ph., 1902	Cedar Rapids
Gonwick, Clara B. A., 1898	Gonwick, Minn.
Haas, Harry, B. S., 1890, Union Christian College	Le Grand
Hearst, Mamie Frances M. Di., 1892, Iowa State Normal; B. Ph., 1899.	Cedar Falls
Hinman, Annie Evelyn B. S., 1891	Grand Forks, N. D.
Holson, Lulu Claire B. Ph., 1896	Forest City
Holt, Harriette Grace B. Ph., 1896; M. A., 1903	Iowa City

Hossfeld, Eleanor — Clermont
B. Ph., 1903

Hunter, Etta Maria — Oasis
B. Ph., 1885

Joy, Florence Livingston — Iowa City
B. Ph., 1902

Louis, Mrs. Erza Lois — Harlan
B. Ph., 1899; M. A., 1900

Lowman, Stella Elizabeth Gilmour — Iowa City
B. Ph., 1902

McLaughlin, Eleanor — Mason City
B. Ph., 1903

Maudlin, Mina May — Ladora
B. A., 1902

Meyerholz, Charles — Wapello
M. Di., 1898, Iowa State Normal; B. Ph., 1903; M. A., 1903

Mingus, Edna M — Iowa City
B. A., 1902

Moler, Margaret Imo — Iowa City
B. Ph., 1902

Mueller, Mary Theresa — Iowa City
B. Ph., 1902

Nicholas, Nellie May — Montezuma
B. Ph., 1900, Iowa State College

Padmore, Julia Rachel — Iowa City
B. A., 1903

Pierce, Juliette — Manchester
B. Ph., 1903

Polk, Mary Emma — Winterset
B. A., 1900; M. A., 1903

Quaife, Fannie Arminta — Ionia
B. Ph., 1898, Upper Iowa University

Quigley, Sarah Ruth — Iowa City
B. Ph., 1902; M. A., 1903

Quigley, Marjorie — Iowa City
B. A., 1903

Reed, Ivy Leslie — Hepburn
M. Di., 1900, Iowa State Normal; B. Ph., 1903

Rice, Jennie Gillis — Council Bluffs
B. Ph., 1891

Rogers, Frances Louise B. A., 1893	Iowa City
Saam, Theodore, J. B. S., 1898, Lenox College; M. A., 1903	Lansing
Schott, Sophia B. Ph., 1900, Iowa State College	What Cheer
Shuck, May B. Ph., 1900	Iowa City
Stover, Bessie Esther B. S., 1901	Iowa City
Sunier, Fanny Annette B. Ph., 1902; M. A., 1903	Iowa City
Willis, Bertha Belle B. Ph., 1901	Iowa City
Willis, Faith Gertrude B. Ph., 1902	Iowa City
Witmer, John Earl B. Ph., 1894, Iowa College	What Cheer

THE COLLEGE OF LIBERAL ARTS

SENIORS

Ballard, George Henry	Sci.	Charles City
M. Di., 1900, Iowa State Normal		
Barber, Francis Adams	Sci.	Estherville
M. Di., 1901, Iowa State Normal		
Bartholow, Claude Alpheus	C. E.	Yale
Beaulieu, Leo Victor	Cl.	Sheldon
Heard, Mary Kathrina	Ph. B.	North East, Penn.
Ph. C., 1892, The University of Michigan		
Hill, Eddy Cecil	Phil.	Nashua
M. Di., 1900, Iowa State Normal		
Hodge, Lida Jane	Ph. B.	Indianola
Johnson, Joel Ernest	Ph. B.	Ireton
M. Di., 1900, Iowa State Normal		
Kent, Carleton Volney	Sci.	Marshalltown
Magowan, Florence Nettie	Ph. B.	Tama
Martin, Katheryn	Ph. A.	Iowa City
Moore, Ella Elizabeth	Cl.	Ft. Dodge
B. Di., 1899, Iowa State Normal		
Murray, Mary	Ph. B.	Maquoketa
Neander, Victor Theophilus	Ph. B.	Sheyenne, N. D.
Porter, Mary Monta	Cl.	Albia
Royal, Malcolm Allen	Sci. & H. M. c.	Des Moines
Rutledge, Herbert Alvin Ingram	Sci.	Williamsburg
B. M. E., 1894, Iowa State College		
Schenck, Charles Plume	Sci.	Burlington
Speidel, Mae Elizabeth Agnes	Cl.	Iowa City
Sporleder, Mary Louise	Ph. A.	Iowa City
Swaggart, Luman Birch	Phil.	New Providence
M. Di., 1898, Iowa State Normal		
Swire, Ethelind	Ph. B.	Iowa City
Taylor, Maude Estella	Sci. & M. c.	Iowa City
Thomas, Seth	Ph. A.	Letart, W. Va.

JUNIORS

Crane, Agnes May	Phil.	Mason City
Hadley, Herbert Erwin	Ph. B.	Badger
LL. B. 1903		
Hennessy, Edward Francis	Ph. B.	Iowa City
McVay, Mary Alice	Ph. B.	Iowa City
Moler, Ida Muriel	Ph. B.	Kinross
Naftzger, Jesse Blaine	Sci.	West Liberty
Parish, John Carl	Phil.	Cedar Falls
M. Di., 1902, Iowa State Normal		
Quigley, Samuel	Cl.	Iowa City
B. Di., 1895, Iowa State Normal		
Whedon, Arthur DeWitt	Sci.	Iowa City
Wiley, Stella Lucile	Ph. A.	Castana
Wolf, Bertha Sarah	Ph. A.	Tipton

SOPHOMORES

Boies, Harry Edward	Ph. B.	Missouri Valley
Boysen, Laura Maria	Sci.	Glenwood
Bradley, Frank Timothy	Sci. & M. c.	Iowa City

FRESHMEN

Sangster, Frank	Ph. B.	Iowa City

UNCLASSIFIED

Ady, Wilma Evans	West Liberty
Anthony, Mabel	Iowa City
Bain, Elizabeth Jane	Webster City
B. Di., 1898, Iowa State Normal	
Bowman, Bessie	Lyons
Budington, Anna	Kingston, N. Y.
B. Ped., 1901, Albany Normal College	
Burnett, Mrs. Marie Obert	Iowa City
Carter, Luther Vinton	New Providence
Collins, Eleanor Harriet	Davenport
Craig, Mrs. Melle Campbell	Iowa City
D. O., 1903, Still College of Osteopathy	

Downey, Ezekiel Henry — Memphis, Mo.
B. S., 1898, Southern Iowa Normal
Dunham, Clifford Scott — Dunlap
Evans, Morfydd Ella — Iowa City
Gepson, Edward D. — Dunlap
Gleason, Grace — Eagle Grove
Groves, Ada Dell — Des Moines
M. Di., 1897, Iowa State Normal
Hawley, Lavenia Maud — Laurens
B. Di., 1901, Iowa State Normal
Holcomb, Elizabeth — Maquoketa
Holcomb, Lillian — Maquoketa
Houghton, Hannah Lois — Norway
B. Di., 1897, Iowa State Normal
Howe, Emma Florence — Muscatine
Johnston, Bernice — Eagle Grove
Klein, Elizabeth — Marion
B. Di., 1892, Iowa State Normal
Koebel, George Pendleton — West Bend
B. S., 1898, Northern Illinois Normal
Lambert, Emma Frances — Cedar Falls
M. Di., 1897, Iowa State Normal
Lederer, Anna Frederika — Mason, W. Va.
Lee, Judson Fiske — Wick
Leffingwell, Mabel Irene — North Clinton
Leonard, Julia Maude — Springdale
Logan, Alida Frances — Chicago, Ill.
Longstreth, Oscar Dolsen — Muscatine
M. Di., 1898, Iowa State Normal
Lyon, Zula Cynthia — Brighton
Lyons, Inis Irene — Fayette
McClanahan, Perry Eugene — Winterset
M. Di., 1899, Iowa State Normal
Mark, Edward William Bartholomew — Le Claire
M. Di., 1900, Iowa State Normal
Mayer, Florence — Iowa City
Mayer, Mrs. Julia Bloom — Iowa City
Mayer, Laurance — Iowa City
Mercer, Henry Virgil — Iowa City
Miller, Grace E. — Muscatine

Moffett, Lambert Benton — Oelwein
M. Di., 1891, Iowa State Normal
Moore, Elizabeth Jane — Derby
Oehler, Lucile — Iowa City
Orr, Janie A — Maquoketa
Parry, Alice — West Branch
Pelzer, Louis — Atlantic
M. Di., 1901, Iowa State Normal
Pierce, Lillie Zilphia — Manchester
Quigley, Edward Gross — Iowa City
B. Di., 1900, Iowa State Normal
Ramseyer, Christian William — Bloomfield
M. Di. 1902, Iowa State Normal
Rate, Laura Frances — Iowa City
Richardson, George Francis — Nugent
Ringema, Engelke Janssen — Forest City
Roberts, Martha Frances — Cherokee
Rosenbladt, Fritz — Bayard
Rourke, Mary — Farley
Schall, Elias Freeman — West Liberty
Senning, John Peter — Le Mars
B. Ped., 1903, Western Union College
Stoke, John Milton — Oskaloosa
LL. B., 1894
Strange, Joanna Gleed — Sioux City
Sturm, Mrs. Isabel Currier — Iowa City
Thomas, Samuel Lenhart — Council Bluffs
M. Di., 1902, Iowa State Normal
Walker, Henry Grass — Iowa City
Watson, Emery Earnest — Stockport
M. Di., 1901, Iowa State Normal
Whicher, Mary Eliza — Muscatine
Wilson, Jennie Louise — Iowa City

THE LIBRARY TRAINING SCHOOL

Amidon, Mary Irene — Cedar Rapids
B. L., 1898, The University of Michigan
Beuck, Paula Helen — Davenport
Chapin, Mrs. Anna Hulburt — Mason City
Chidester, Eva Maud — Evanston, Ill.

Cook, Laura Estella	Chariton
Evans, Pearl	Atlantic
Fulton, Nannie Pearse	Keokuk
Galloway, Reta Blanche	Marshalltown
Geer, Fanny Albertine	Columbus, Neb.
Gunsolus, Helen Emily	Tipton
Hopkins, Adah May	Grinnell
Horton, Mrs. Elizabeth Margaret	Algona
Howard, Clara Louise	Lincoln, Neb.
Hurlbut, Grace Alice	York, Neb.
Johnson, Eliza Love B. S., 1903	Iowa City
Lloyd, Adelaide Charlotte B. A., 1882	Iowa City
Logasa, Hannah	Omaha, Neb.
McCoy, Cina	Muscatine
McGee, Alice Florence B. Ph., 1901	Iowa City
McRaith, Helen Marie	Iowa City
Moffatt, Bessie Ingersol	Boone
Oliver, Mary Maude Ellen	Onawa
Perkins, Mrs. Carrie Palmer	LeGrange, Ill.
Raguet, Marguerite	Davenport
Roberts, Jennie Ellen	Iowa City
Sawyer, Mrs. Nellie Stephens	Muscatine
Simpson, Ida Meade	Maquoketa
Stocker, Ellen Gilman	Muscatine
Townsend, Eliza Ellen	Keokuk
Tulloss, Carolyn M. B. Ph., 1902	Iowa City
Waterbury, Flora Avis	Iowa City
Wilson, Bertha Blanche	Des Moines

THE COLLEGE OF PHARMACY

Corlett, Clara Marie	Iowa City

THE COLLEGE OF MEDICINE

THE NURSES TRAINING SCHOOL

Rooney, Mary Regina	Dubuque

THE GRADUATE COLLEGE

DEGREES CONFERRED, JUNE, 1903.

DOCTOR OF LAWS (Honorary)

Allison, William Boyd
Hoar, George Frisbie

DOCTOR OF PHILOSOPHY

Conner, Jacob Elon, B. A., 1891
Williams, Mabel Clare, B. Ph., 1899

MASTER OF ARTS

Eddy, Helen May, B. A., 1900
Farrell, Thomas, B. A., 1902
Holt, Harriette Grace, B. Ph., 1896
Hornsyld, Peder Pedersen, Univ. of Copenhagen
Louis, John Jay, B. Ph., 1899
Maita, Minoru, Tokyo English College, 1896; LL. B., 1901, University of Oregon
Meyerholz, Charles, M. Di., 1898, Iowa State Normal; B. Ph., 1902,
Polk, Mary Emma, B. A., 1900
Quigley, Sarah Ruth, B. Ph., 1902
Saam, Theodore J., B. S., 1898, Lenox College
Schaub, Lincoln Frederick, B. A., 1901, Charles City College
Sherwood, Mrs. Elizabeth Lewis, B. A., 1881
Simonton, Thomas Milton, B. Ph., 1900; I.L.B., 1901
Sunier, Fanny Annette, B. Ph., 1902

MASTER OF SCIENCE

Bell, William Bonar, M. Di. 1899, Iowa State Normal; B. A. 1902
Burton, Harry Edward, B. A., 1901
Lambert, Charles Irwin, M. Di., 1897, Iowa State Normal; B. S. 1901
Lees, James Henry, M. Di., 1897, Iowa State Normal; B. A., 1901, Coe College

DEGREES CONFERRED, SEPTEMBER, 1903

MASTER OF ARTS

Collins, Edward Robert, B. S., 1902
Gaston, Myron Clinton, B. A., 1901, Tabor College
Paxon, Susan, B. Ph., 1891
Smith, Mabel Clare, B. A., 1902

MATRICULATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Baldwin, Nellie Love — Des Moines
B. Ph., 1901, Des Moines College; 1902, University of Chicago; M. A., 1903, Des Moines College
History, Philosophy

Bartsch, Paul, B. S., 1896; M. S., 1899 — Washington, D. C.
Conchology, Ornithology

Bell, William Bonar — Milton
M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903
Zoology, Morphology

Boehm, Walter Martinus, B. S., 1902 — Ft. Dodge
Physics, Chemistry

Brown, Charles Calhoun — Iowa City
B. A., 1898, Coe College
Sociology, Ethics

Buffum, Hugh Straight, B. A., 1901; M. A., 1902 — Le Roy
Education, Psychology

Burton, Harry Edward, B. A., 1901; M. S., 1903 — Onawa
Mathematics

Cady, George Luther — Iowa City
B. A., 1890, Olivet; B. D., 1894, Chicago Theological Seminary
Sociology, Philosophy

Collins, Edward Robert, B. S., 1902; M. A., 1903 — Bloomfield
Education, Philosophy

Dorcas, Herbert Clifford — Iowa City
B. Ph., 1895; M. A., 1903, Columbia
Education, Psychology

Eddy, Helen May, B. A., 1900; M. A., 1903 — Marengo
Latin, Greek

Ensign, Forest Chester — Council Bluffs
M. Di., 1895, Iowa State Normal; B. Ph., 1897; M. A., 1900
Sociology, Education

Ferson, Merton Leroy, B. Ph., 1900; LL. B., 1901 Iowa City
Jurisprudence, Iowa History

Fitzpatrick, Thomas Jefferson, B. S., 1903; M. S., 1900 Iowa City
Botany, Geology

Fracker, George Cutler Cedar Rapids
B. Ph., 1894; B. Di., 1896; M. A., 1900
Psychology, Philosophy

Hansen, Heinrich Emil, 1892, Kiel University. Iowa City
German, Scandinavian and Education

Hoffsten, Conrad Emanuel Rock Island, Ill.
B. A., 1897, Augustana College; B. Di., 1901, Theological Seminary
Philosophy, Greek

Kephart, Milton Lawrence, B. Ph., 1901 Shueyville
Sociology

Lambert, John Joseph Iowa City
M. Di., 1897, Iowa State Normal; B. Ph., 1899; M. S., 1901
Morphology, Geology

Louis, John Jay, B. Ph., 1899; M. A., 1903. Harlan
Education, History

Murphy, Joseph L. Muscatine
B. A., 1888, Roanoke College, (Va.); B. D., 1891, Mt. Airy Theological Seminary
Philosophy, Sociology

Paarman, Juergen Herman, B. S., 1902; M. S., 1902 Davenport
Alcyonaria, Entomology

Sherwood, Mrs. Elizabeth Lewis, Iowa City
B. A., 1881; M. A., 1903
English Literature, English Language

Weld, LeRoy Dougherty, B. S., 1899; M. S., 1902 Cedar Rapids
Physics, Mathematics

Youngert, Sven Gustaf Rock Island, Ill.
B. D., 1899; B. A., 1901, Augustana College
Philosophy, Psychology

MATRICULATES FOR THE DEGREE OF MASTER OF ARTS

Bailey, John Tyley Iowa City
B. A., 1900; LL. B. 1902, Lake Forest University
English, Spanish

Ballard, George Henry — Charles City
M. Di., 1900, Iowa State Normal; B. S., 1904
Economics, Mathematics

Barber, Katherine Brainerd,* B. Ph., 1892 — Iowa City
English

Beaulieu, Leo Victor, B. A., 1904 (In Course) — Sheldon
Philosophy, Education

Bowman, John Gabbert, B. A., 1899 — Lyons
English, Philosophy

Brown, Florence Emily, B. Ph., 1892 — Marengo
Abn. Psychology, Morphology and Physiology

Burnett, George Ritter, West Point, 1880 — Iowa City
Economics.

Chamberlain, Park, B. Ph., 1899 — Anamosa
American History, Municipal Government

Chawner, Mary Grove — Indianapolis, Ind.
B. A., 1896, Penn College
English Literature, English Language

Cook, Roy Arthur, B. A., 1901 — Independence
Political Science, Public Speaking

Cutler, William Alden — Centerville
B. Ph., 1903, Des Moines College
Economics, Political Science

Davis, Arthur William — Fonda
B. S., 1898, Upper Iowa University
Economics, Constitutional Law

Dykstra, Sylvester Henry, B. A., 1902 — Rochester, N. Y.
American History, English History

Egan, George William, B. A., 1900; LL. B., 1901 — Logan
Potitical Science, Sociology

Fitch, Harry Holland,* B. A., 1902 — Sac City
Latin, Greek

Ford, Percy Lindsay,* B. A., 1897, Palmer College — Le Grand
Latin, Greek

Garver, Frank Harmon — Sioux City
B. A., 1898, Upper Iowa University
American History, Political Science

Gaston, Myron Clinton,* B. A., 1901, Tabor College — Tabor
Greek, Latin

*The students whose names are followed by the asterisk were in attendance during the summer session only.

Gordon, Campbell, B. Ph., 1900, Iowa College — Grinnell
Education, Psychology

Huggett, J. Percival — Cedar Rapids
M. Di., 1892, Iowa State Normal; B. Ph., 1903
Education, Economics

Humphrey, Benton Wade, B. Ph., 1899, Cornell College — Walford
Political Science, Economics

Hunt, Percival — Cedar Falls
M. Di., 1897, Iowa State Normal; B. A., 1900
English Literature, Rhetoric

Ishizawa, Kyngoro — Fukushima, Japan
1898, University of Waseda; LL.B., 1899, Tokyo College of Law
Public Finance, Industrial History

Johnson, Henry Charles, B. Ph., 1903 — Decorah
Education, History

Kelley, Rita Amanda, B. Ph., 1901 — Iowa City
English Language, English Literature

Kent, Grace Helen, B. A., 1902 — Victor
Psychology, Philosophy

King, Agnes, 1903, Buena Vista College — Schaller
Latin, Greek and Psychology

Kingsbury, Maude Cleaveland, B. Ph , 1902 — Iowa City
Psychology, Logic

Krebs, Robert D., B. A., 1903 — Cedar Rapids
Greek, Latin

Lorenz, Charlotte Marie, B. A., 1902 — Iowa City
German, Gothic and Old English

McGee, Alice Florence, B. Ph., 1901 — Iowa City
French, English

Mahaffy, John Milton, B. Ph., 1902 — Marion
Sociology, History

Merritt, Edith Whitney, B. Ph., 1903 — Iowa City
German, Norse and French

Monnet, Julien Charles, B. Ph., 1892; LL. B., 1893, Cando, N. D.
Political Science, Economics and Psychology

Myers, Milfred, B. Ph., 1899 — Iowa City
History, English

Nisley, Frank Newton, B. Ph., 1901, Coe College, Cedar Rapids.
Education, Psychology

Paxson, Susan,* B. Ph., 1891 — Omaha, Neb.
Education, Latin

Plock, Henrietta Dorothy, B. A., 1901 — Burlington
German

Pratt, Harlow Munson, B. S., 1903 — Iowa City
Economics, English

Pratt, Mrs. Margaret Allie Tobin — Iowa City
B. Di., 1900, Iowa State Normal; B. A., 1903
German, Latin

Quaintance, Bertha Belle — Cable, Ill.
B. A., 1899, The University of Nebraska
English Literature, English Language

Randall, Frank Hall, B. A., 1902 — Iowa City
History, Political Science

Reever, William Henry — Laurens
M. Di., 1895, Iowa State Normal; B. Ph., 1897
U. S. History, Constitutional Law

Resser, Jesse, B. Ph., 1903 — Perry
Public Speaking, Sociology

Rich, David W., B. A., 1902 — Wayland
Greek, Public Speaking

Robinson, Alta Aileen, B. Ph., 1900 — Iowa City
English Language, English Literature

Schiefelbein, Emil August — Hudson
B. S., 1896, Upper Iowa University
Economics, History

Shuck, May, B. Ph., 1900 — Iowa City
English, Sociology

Starch, Daniel, B. A., 1903, Charles City College, — La Crosse, Wis.
Psychology, Education

Swire, Ethelind, B. Ph., 1904 (In Course) — Iowa City
French, English

Underwood, Joseph Harding — Bristow
B. A., 1902, Western College
Economics, Sociology

Waite, Lillian Ethel, B. S., 1900 — Iowa City
Education, Psychology

Wassam, Clarence Wycliffe — Iowa City
M. Di., 1900, Iowa State Normal; B. Ph., 1903
Sociology, U. S. History

MATRICULATES FOR THE DEGREE OF MASTER OF SCIENCE

Albert, Fred, Jr., B. Ph., 1903 — Reinbeck
Pathology, Morphology

Anderson, Rudolph Martin, B. Ph., 1903 — Iowa City
Zoology, Morphology

Bailey, Frederick William, B. S., 1902 — Iowa City
Physiology, Morphology

Blythe, Edward Ellsworth, B. Ph., 1900 — Williamsburg
Histology, Embryology

Branson, Laura House, M. D. 1885; B. S., 1901 — Iowa City
Pathology, Psychology

Byrnes, Ralph Leonidas, B. S , 1902 — Iowa City
Pathology and Bacteriology, Botany

Cameron, John Edwin, Cedar Rapids; M. Di., 1894, Iowa State Normal; B. S., 1892; M. S., 1895, Lenox College; B. S., 1895
Zoology, Botany

Cavanagh, Lucy Mary, B. S., 1896 — Iowa City
Botany, Zoology

Charlton, Max Rosecrans, B. S., 1902 — Clear Lake
Physiology, Psychology

Clark, Whit H., B. S., 1897 — Sioux City
Mathematics, Education

Clearman, Hattie Marie, B. Ph., 1900 — Iowa City
Botany, Geology

Edmondson, Charles Howard, B. Ph., 1903 — Iowa City
Zoology, Morphology

Ellyson, Charles Wright — West Liberty
B. S., 1901, Cornell College
Psychology, Pathology

Farr, Henry Valentine — Oskaloosa
B. S., 1903, Penn College
Chemistry, Physics

Foulk, Frank Erastus — Waterloo
B. S., 1901, Des Moines College
Histology, Physics, Chemistry

Frary, Guy Griffin — Sioux City
B. S., 1902, Morning Side College
Chemistry, Zoology

Goodwin, James Gardner — Bristol, Conn.
B. S., 1899, Wesleyan University
Chemistry, Physical Chemistry

Gow, James Ellis, B. Ph., 1901 — Greenfield
Botany

Groendycke, Clara Louisa, B. S., 1900 — Gracehill
Mathematics, Physics

Hanson, Clarence Henry, B. S., 1903 — Ft. Dodge
Physiology, Pathology

Hoover, Alden Robbins, B. S., 1902 — Muscatine
Embryology, Histology

Hudson, Jessie Blanche — Hampton
B. S., 1903, Iowa State College
Pathology, Physics

Ilsley, Harry Eugene — Wyoming
B. S., 1899, Coe College
Geology, Econ. Geology

Johnson, Anna — Akron
B. A., 1903, University of South Dakota
Mathematics, History of Philosophy

Joyn*, Martin John, B. S., 1903 — Emmetsburg
Physiology, Pathology

Kent, Carleton Volney, B. S., 1904 — Marshalltown
Physics, Mathematics

Krause, Charles Schutz, B. S., 1902 — Garwin
Pathology, Bacteriology

Meade, James Albert, B. S., 1900, Iowa College — Iowa City
Zoology, Botany

Meade, Leonard Fletcher, B. S., 1903, Iowa College — Iowa City
Botany, Zoology

Mosnat, H. Roy,* B. Ph., 1899 — Chicago, Ill.
Geology

Mueller, Herman August, B. Ph., 1899 — Winterset
Geology, Botany

Myers, Perry Cullen, B. S., 1899 — Winona, Minn.
Geology

Negus, Alvah — Iowa City
B. A., 1890; M. A., 1899, Penn College
Histology and Embryology

Seaver, Fred Jay, 1902, Morning Side College — Mansing
Botany, Zoology

Speidel, Ida Theresia, B. S., 1903 — Iowa City
Mathematics, History of Philosophy

Utt, Chester Allan Arthur — Cedar Rapids
B. S., 1903, Cornell College
Chemistry, Physics

Walker, Evahn Russell — Oelwein
B. S., 1900, Iowa State College
Physiology, Pathology

Walsh, John Graney, B. S., 1903 — Perry
Physiology, Pathology

MATRICULATES FOR THE DEGREE OF CIVIL ENGINEER

Clements, Melville Fisk, B. S., 1899 — Agency
Civil Engineering

Lambert, Byron James — Iowa City
M. Di., 1897, Iowa State Normal; B. Ph., 1900; B. S. 1901
Steel Concrete Arches, Limes and Cements

MATRICULATES NOT CANDIDATES FOR DEGREES

Achenbach, Naomi* — Gladbrook
M. Di., 1900, Iowa State Normal; B. Ph., 1902
Botany

Anthony, Charles Henry, B. S., 1902 — Iowa City
Botany, French

Beck, William Edmund, B. S., 1900; M. S., 1902 — Iowa City
Mathematics, Physics

Biggs, Mrs. Eleanor Startsman — Iowa City
B. Ph., 1887; M. A., 1890
English

Brown, Maud Anna,* B. Ph., 1903 — Marengo
Physics, Astronomy

Burrus, James Harvey,* B. A., 1901 — Winterset
English

Bush, Mrs. Rachel Mather, B. Ph., 1902 — Iowa City
Norse, English and Italian

Carroll, Elizabeth Fawcett,* B. Ph., 1901 — Cedar Rapids
English, Botany

Carroll, Nancy Grace,* B. Ph., 1898 — Cedar Rapids
English, Botany, Mathematics

Coast, Mrs. Grace McGee, B. S., 1891 — Iowa City
French

Coldren, May-Belle, B. Ph., 1898 — Iowa City
Pyschology

Copeland, Helen Louise, B. Ph. 1888 — Iowa City
English

Crenshaw, Hattie Laura* — Marengo
B. A., 1899, Coe College
Latin, Greek and Education

Curtis, Alice Bertha,* B. Ph., 1903 — Allison
English, Economics

Dick, George Stuart — Red Oak
B. Di., 1887, Iowa State Normal; B. S., 1888, B. Ph., 1897, Cornell College
Psychology, Education

Duboc, Jessie Lucy* — Oskaloosa
B. A., 1902, Des Moines College
Sociology, Political Science and Education

Duff, Gertrude May* — Winterset
B. L., 1895, Monmouth College
English, Education and Latin

Farrell, Thomas,* B. A., 1902; M. A., 1903 — Fonda
Physics, Botany and Education

Ford, Mrs. Charity Joanna* — LeGrand
B. A., 1895, Antioch College
German

Fowler, Kate Marcia* — Clinton
B. Ph., 1900, Coe College
English, Latin

Freeman, Mae Agnes, B. Ph., 1897; M. A., 1898 — Iowa City
History

Gaymon, Leah May, B. Ph., 1892, M. A., 1895 — Iowa City
English

Geyer, Ellen,* B. Ph., 1902 — Cedar Rapids
English, German and Botany

Gilchrist, Helen Cox, B. Ph., 1899 — Iowa City
French

Gonwick, Clara,* B. A., 1898 — Gonwick, Minn.
Latin, English and Botany

Haas, Harry* — LeGrand
B. S., 1900, Union Christian College
Mathematics, Physics

Hearst, Mamie Frances* — Cedar Falls
M. Di., 1891, Iowa State Normal; B. Ph., 1899
English

Hinman, Annie Evelyn,* B. S., 1891 — Grand Forks, N. D.
English

Holson, Lulu Claire,* B. Ph., 1896 — Forest City
English, Latin

Holt, Harriet Grace, B. Ph., 1896, M. A., 1903 — Iowa City
English, Spanish

Hossfeld, Eleanor,* B. Ph., 1903 — Clermont
History, Mathematics and English

Hughes, Louise Elizabeth — Iowa City
B. Ph., 1878; M. A., 1881; B. A., 1899
Greek, German

Hunter, Etta Maria,* B. Ph., 1885 — Oasis
Latin, Mathematics and Botany

Hutchinson, Ada Flynn, B. Ph., 1891 — Iowa City
History

Joy, Florence Livingston,* B. Ph., 1902 — Iowa City
English

Lewis, Rosa Ellen — Oskaloosa
B. S., 1882, Penn College; M. A., 1885, Bryn Mawr
English, French

Louis, Mrs. Erza Lois,* B. Ph., 1899; M. A., 1900 — Harlan
English

Lowman, Stella Elizabeth Gilmour,* B. Ph., 1902 — Iowa City
Latin, English

McLaughlin, Eleanor,* B. Ph., 1903 — Mason City
Physics, Education

Macomber, Edith Katherine, B. Ph., 1900 — Carroll
French, English

Maudlin, Mina May,* B. A., 1902 — Ladora
Greek, Latin and German

Meyerholz, Charles — Wapello
M. Di., 1898, Iowa State Normal; B. Ph., 1903; M. A., 1903.
History, English and Political Science

Mingus, Edna M.,* B. A., 1902 — Iowa City
Education

Moler, Margaret Imo,* B. Ph., 1902 — Iowa City
Mathematics, Economics

Mueller, Mary Theresa,* B. Ph., 1902 — Iowa City
German, English

Musson, Florence Ada, B. A., 1891 — Iowa City
German

Nicholas, Nellie May* — Montezuma
B. Ph., 1900, Iowa State College
Economics, Education and Botany

Padmore, Julia Rachel,* B. A., 1903 — Iowa City
Latin

Pierce, Juliette,* B. Ph., 1903 — Manchester
Philosophy, English

Polk, Mary Emma,* B. A., 1900; M. A., 1903 — Winterset
German, French

Quaife, Fannie Arminta* — Ionia
B. Ph., 1898, Upper Iowa University.
Mathematics, English

Quigley, Sarah Ruth,* B. Ph., 1902; M. A., 1903 — Iowa City
English, French and Mathematics

Quigley, Marjorie,* B. A. 1903 — Iowa City
English

Reed, Ivy Leslie* — Hepburn
M. Di., 1900, Iowa State Normal; B. Ph., 1903
Education, Sociology

Rice, Jennie Gillis,* B. Ph. 1891 — Council Bluffs
English

Robb, Francis Green — Russell
B. S., 1901, Parsons College
Botany, Zoology and Education

Rogers, Frances Louise,* B. A., 1893 — Iowa City
English, Education

Saam, Theodore J.* — Lansing
B. S., 1898, Lenox College; M. A., 1903
Physics, Education and Botany

Sawyer, Jessie Salanda — Evanston, Ill.
B. Ph., 1897, Northwestern University
Norse

Schott, Sophia* — What Cheer
B. Ph., 1900, Iowa State College
Mathematics, Latin and English

Stover, Bessie Esther,* B. S., 1901	Iowa City
Education, English	
Sunier, Fanny Annette,* B. Ph., 1902; M. A., 1908	Iowa City
French, Spanish and English	
Thompson, Edna Browning	Clinton
B. A., 1900, Albion College (Mich.)	
Latin, Mathematics	
Troth, Mira, B. A., 1883	Iowa City
English, Political Science	
Wilcox, Mrs. Mary DeVoll	Iowa City
B. A., 1888, Smith College	
History	
Willis, Bertha Belle,* B. Ph., 1901	Iowa City
English, Political Science and Botany	
Willis, Faith Gertrude, B. Ph., 1902	Iowa City
English, Education	
Witmer, John Earl*	What Cheer
B. Ph., 1894, Iowa College	
Sociology, Political Science	

THE COLLEGE OF LAW

DEGREES CONFERRED JUNE, 1903

Ahern, Timothy Joseph
Allbee, Gustavus, Jr.
Artherholt, Luther Garfield
Ball, George Washington, Jr.
B. Ph., 1901
Bannister, Robert James
B. Ph., 1901
Birss, George Alexander
Bock, William James
Bordner, Richard L.
Calkins, Guy Smith
Clegg, Samuel Harvey
Cox, Clifford Vernard
B. Ph., 1901
Crockett, Frank Walford
Crum, William Edwin, Jr.
Delevan, George Edwin, Jr.
B. A., 1902
Drake, Fred Collins
B. Ph., 1901
Engelke, Charles Rufus
B. Ph., 1900, Iowa College
Farquhar, S. Walter
Fitzpatrick, Miles Joseph
Gillespie, John Leonard
B. S. of E. E., 1899,
Iowa State College
Grosenbaugh, Carrie
B. D., 1902; LL. B., 1902,
Highland Park College
Gurley, Zenas Robinson
Hadley, Herbert Erwin
Hanson, William Patrick
Harned, Luther Martin
Heald, Francis Alfred
B. Ph., 1900, Cornell College
Heminger, Amos Lincoln
Howell, George Key
Hull, Elmer Clapp
B. Ph., 1899
Hunter, Charles Randall
Hunter, John McCrary Griggs
Huttenlocher, Forest
Jackson, Thomas Sunter
B. S., 1900,
Upper Iowa University
Jones, Peter Henry
Kelso, Charles David
Kenyon, Earle Dudley
Kuck, Orlando Adolph
B. Ph., 1901
McClain, Donald
B. A., 1901
McConnell, Arthur Harris
McCulla, Walter Philo
B. Ph., 1901
McElroy, Isaac Erwin
McKenzie, John Augustus
B. A , 1901
Mack, Guy Edgar
Maguire, Daniel Eugene

Mather, Carl Henry
B. S., 1900, Penn College
Medin, John Theodore
Miles, Matthew James
B. A., 1896, St. Mary's (Kas.)
M. A., 1898, Georgetown Univ.
Mowry, Ross Rutledge
Negus, Henry
Oakes, William Thomas
Ping, John Roy
Pomeroy, William Henry
Risk, Loren
Sherman, Fred
Smith, Thomas Corwin
Sullivan, Eugene John
Swift, John Loras
Thompson, Herbert Garfield
Thompson, Ralph Ulysses
Tourgee, John Birney
VanderPloeg, William Garfield
VanNess, Edwin Jones
Voogd, Dick
Walker, James Henry
Waterman, Willian Thomas
B. Ph.. 1900, Iowa College
Wenner, Edward Jackson
Wilcox, William Henry
Wilson, Carlton Charles
Wood, Clarence Daniel
Yates, Edward Gilbert
B. Ph., 1900

THIRD YEAR

Allen, Frank J.	Scranton
Brown, Edwin Keech	Solon
Burnett, George Ritter	Iowa City
1880, West Point	
Burrus, James Harvey	Winterset
B. A., 1901	
Byers, Frank Crockett	Alden
Cole, Franklin James	Mason City
Cook, Roy Arthur	Independence
B. A., 1901	
Cross, John Eli	Ira
Diamond, Tobias Ellsworth	Orange City
Dunham, Ralph Abner	Manchester
Emmons, Orrin William	Iowa City
Estes, Joel Sydney	Thurman
B. A., 1894, Lincoln Normal College	
Fitzpatrick, Daniel Helen	Ft. Dodge
Fortner, Frank Ellis	Waverly
Genung, Norman Seth	Glenwood
Gray, Ross Calhoun	Rockwell City
Haddock, Ross Boyd	Bedford
Herrick, William Karl	Cherokee
B. L., 1900, University of Wisconsin	

Humphrey, Benton Wade	Walford
B. Ph., 1899, Cornell College	
Irvine, Albert Elmer	Oelwein
Johnson, Daniel Graham	Curlew
Johnston, Albert Cleland	Ida Grove
Kahler, Waldo Emerson	Traer
Kenderdine, Glenn Albert	Lisbon
Kimball, Frank Burton	Iowa City
Kirby, James Francis	Marengo
B. Ph., 1902	
Klise, Harrold Edward	Baxter
Koser, George Doner	Iowa City
Kuhlemeier, Harry Floyd	Burlington
Lane, Dick Richardson	Davenport
Law, William Robert	Waterloo
Linville, Guy Pittman	Carson
Longueville, Oliver	Dubuque
McCord, Ray Afton E.	Defiance
McCoy, Edward Hugh	Dumont
Martin, Frederick Alonzo	Muscatine
Mercer, Herbert Miller	Burlington
Ratcliff, William Connor	Rolfe
Ridgeway, William Bailey	Winfield
Schiefelbein, Emil August	Hudson
B. S., 1896, Upper Iowa University	
Shannahan, Edwin Joseph	Iowa City
Spurgeon, Theodore	Iowa City
Storey, Leslie	Iowa City
B. Ph., 1902	
Stuart, Charles Edward	Chadwick, Ill.
Sutherland, Charles Ross	Center Junction
M. Di., 1899, Iowa State Normal	
White, Wilmer Welrose	Panora
Whiting, Samuel Danforth	Iowa City
B. A., 1896	
Wieben, Edward Emil	Dysart
Will, Charles Louis	Vinton
Willett, James Horace	Tama
B. A., 1901	
Willging, Edgar Henry	Dubuque
Williamson, Ralph Clinton	Iowa City
B. Ph., 1902	

SECOND YEAR

Alford, Lore	Waterloo
Algyer, Harold Mills	Paullina
Baughn, Wilmot Lawson	Harlan
Benshoof, Chester William	Stockton
Bergman, Roy Earnest	Newton
Bryant, Jessie Chilton	Griswold
Burgeson, Henry Adolph	Kensett
Burmeister, August Otto	Adair

B. Ph., 1903

Coakley, Charles Arthur Eugene	Flandreau, S. Dak.
Cox, Guy	Missouri Valley
Davis, Charles George	Geneseo, Ill.
Dickson, Charles Frank	Manning
Dougherty, Ira Elmer	Lake City
Dunn, Delbert	Cherokee
Dykstra, Sylvester Henry	Rochester, N. Y.

B. A., 1902

Freeman, Earnest Franklin	Emmetsburg
Garretson, Gail Garfield	Atlantic
Gorman, George Curran	Anamosa
Hampson, John Albert	Osage
Jackson, Neil Delos	Waterloo
Jeffers, Clyde Garfield	Hamton
Johnson, Lewis Gerhard	Roland

B. A., 1902, Luther College

Jones, Nyle William	Iowa Falls
Keck, Walter L.	Maqueoketa

B. Ph., 1903

Knox, Clem	Keosauqua
Lynch, John Daniel	Sioux City
McLaughlin, Joseph Edmund	Wapello
McNett, Walter	Ottumwa
Maennel, Claude Frederick	Correctionville
Malmberg, Edward Philip	Newton
Miller, Albert Elias	Denison
Moffitt, Horace Barclay	Newton
Mosher, Orris, Jr.	Walnut
*Muller, Charles Engelbert B.	Coon Rapids

*Died, December 9, 1903.

Noel, Charles Elbert	Iowa City
O'Brien, Richard Joseph	Independence
Oelkers, Leroy Carl	Davenport
Osborn, Wayne McVeigh	Rippey
Pratt, Harlow Munson	Iowa City

B. S., 1903

Ramsell, Richard Roemer	Ottumwa
Remley, George Edwin	Iowa City

B. Ph., 1901

Rich, David W.	Wayland

B. A., 1902

Roche, Thomas Francis	Clarence

B. A., 1892, Cornell College

Ryan, John Joseph	Muscatine
Scallon, Hubert William	Ackley

M. Di., 1901, Iowa State Normal; B. Ph., 1903

Smith, Curtis Wales	Mexico, N. Y.
Smith, John Seymour	New Glasgow, P. E. Island
Spangler, Harrison Earl	Adair

B. Ph., 1903

Stanfield, Sidney Evert	Lake City
Swindle, Anthony J.	Ryan
Walrod, Claude Delestine	Onslow

B. A., 1895

FIRST YEAR

Alford, Robert Cushman	Waterloo
Atkinson, William Ira	Clarksville
Barker, Erwin Jeremiah	Cresco
Brekke, Edward Albertin	Spillville

B. A., 1903, Luther College

Caldwell, Johnston Eakins	Mt. Hamill
Campbell, Ed Hoyt	Battle Creek
Carlton, Robert Steadman	Spirit Lake
Catlin, Frank Milo	Creston
Chalmers, John George	Iowa City

B. A., 1901, Lafayette College

Christy, Adelbert	Floris
Criswell, Raymond	Burlington
Cutler, William Alden	Centerville

1903, Des Moines College

DeCou, Samuel Roland	Woodbine
Dennis, Louis Denton	Cedar Rapids
Edwards, Arthur Clement	Epworth
B. A., 1898, Upper Iowa University	
Floren, Sigfrid Emanuel	Gowrie
Forsyth, Lawrence Ray	Griswold
Gibbs, Francis Whitney	Villisca
Green, Thomas William	Sioux City
Gunderson, Carl Oscar	Kensett
Haney, Homer Eddison	Oregon, Ill.
Harris, Homer Hawthorne	Oskaloosa
Harris, Lloyd Carlyle	Oskaloosa
Hart, William Richard	Oelwein
Hedges, Bruce Emerson	Marengo
Hill, George Edgar	Burlington
B. Ph., 1903	
Holman, Harold William	Oelwein
Johnson, Otis Carl	Dows
Kelly, James Edwin	Hudson
Konzen, Peter Hubert	New Hampton
Krebs, William Hutchinson	Carroll
Lambert, Clarence Joseph	Adrian, Ill.
Lamprecht, John	Eldora
Lawrence, Arthur Garfield	Hopkinton
B. S., 1903, Lenox College	
McClure, Clyde W	Marsh
McDowell, Earl	Ames
McGowan, Alvah Earl	Clear Lake
McHugh, Roderick Emmet	Sioux City
Miller, Claude Melvin	Iowa City
Moon, John Clarence	Griswold
Moore, Alexander Patterson	Missouri Valley
Neas, Harry Mackey	Sigourney
Overbaugh, John Edwin	Clarion
B. Ph.. 1903, Cornell College	
Paige, Constant Anton	Laurens
Pascal, Percival Purcell	De Witt
Pasley, Crockett Hector	Nevada
Ramseyer, Christian William	Bloomfield
M. Di., 1902, Iowa State Normal	
Salinger, Benjamin Isaac, Jr.	Carroll

Salinger, Louis Howard	Carroll
Severin, Carl Frederick	Cedar Falls
Sifford, Ross	Wall Lake
Simpson, Samuel S.	Axtell, Kansas
Smith, Stanley Rulief	Osage
Steck, Daniel Fredric	Ottumwa
Thompson, Fred F.	Brooklyn

B. A., 1903, Cornell College

Walker, Henry Grass	Iowa City
Walker, Traffer V.	Denison
Wray, Frederick E.	Curtis
Wyckoff, Fletcher Felix	Centerville
Yessler, Joseph Urvin	Western College

B. Ph., 1902, Coe College

UNCLASSIFIED

Hummel, Frank Isaac	Zanesville, Ohio

STUDENTS IN THE COLLEGE OF LIBERAL ARTS TAKING LAW AS ELECTIVE WORK

Donovan, Louis Patrick	Eagle Grove
Dye, Harvey Leroy	Macedonia
Gilbert, Harold Brayton	State Center
Hellberg, Will Fred	Anamosa
Kunz, John Franklin	Wesley
Meakim, Roger Joseph	West Burlington
Melzner, Arthur Burdell	Yankton, S. Dak.

COMBINED COURSE

Allen, Burritt Steward	Laurens
Bedford, Lyman Daniel	Hudson
Brackney, Herbert Winfield	Washta
Cross, Cash R.	Iowa City
Cushing, Raymond George	Exira
Hunt, Heman Doud, Jr.	Shell Rock
Johnston, Edward Ray	Iowa City
Moffitt, Chester Earl	Fonda
Neander, Victor Theophilus	Sheyenne, N. Dak.
Savage, John Elton	Hebron
Schneider, Daniel Detrich	Hinton

M. Di., 1902, Iowa State Normal

White, Warren Henry	Iowa City

THE COLLEGE OF MEDICINE

DEGREES CONFERRED JUNE, 1903.

Ainsworth, Adelaide Lorena
Angus, Haney Adelbert
B. S. 1900
Appel, Fred Lyons
Bice, Gerald Roy
Braden, Austin Lynn
Burns, Thomas John
Bushnell, William Francis
Chamberlain, Ben H.
Creswell, William L.
Cummings, William Cyrus
Downing, Leroy Morgan
Dulin, John Albert
Fairall, Herbert Snowden, Jr.
B. S. 1902
Grothaus, Tarana Johanna
Hetzel, Clarence Charles
Hoffman, Coleman Lovejoy
Hooker, Ira Sidney
Huston, Samuel Wesley
Jones, Henry Durst
Jones, Walter William
Lambert Charles Irwin
M. Di. 1897, Iowa State Normal; B. S. 1901
McCall, Harry Ernest
McClure, Ernest Covey
Meyers, Jacob Franklin
Moon, Roy
Murchison, Kenneth
Murphy, Thomas William
Porter, Roy Samuel
Robinson, Reuben Artman
Shaffer, Carl John
M. Di.'97,Iowa State Normal
Shiley, George Francis
Washburn, Frank Augustus
B.A.'96, BattleCreekCollege
Whitaker, Ellis John
B. A. 1896
Whitmore, Clara B.
B. A. 1900
Young, James Myron

FOURTH YEAR

Allen, Roy William	Marshalltown.
Arnett Lillie Amanda	Erie, Ill.
Baldwin, Clare C.	New Sharon.
Blythe, Edward Ellsworth	Williamsburg.
B. Ph. 1900	
Boots, Frederick Warner	Linden.
Bowman, Howard Edgar	Iowa City.
Briggs, Stewart Daniel	Los Gatos, Cal.
B. A. '92; M. A. '93, Leland Stanford, Jr., University	

Brown, Florence Emily	Marengo
B. Ph., 1892	
Carle, Frank Clifford	Urbana
Coulthard, George Harry	Missouri Valley
Crane, Edward Harrison	Battle Creek
Crane, Eudell Thomas	Battle Creek
Cross, Frank Wallace	Leon
Day, Archie Loraine	Mt. Pleasant
Dunn, John Edward	East Orange, N. J.
Edmonds, William Frank	Dysart
Fitz, Joseph Hamilton	Panora
Foulk, Frank Erastus	Waterloo
B. S., 1901, Des Moines College	
Gordon, William Null	Traer
Gray, Oscar Sylvester	West Union
Hearst, George Edward	Cedar Falls
Houser, Cass Thomas	Urbana
Irwin, Perle Clifton	Fairfield
Jones, Harry Jacob	Wellman
Krause, Charles Schutz	Garwin
B. S., 1902	
Kulp, Ray Ranney	Davenport
McDermott, Peter John	Iowa City
Martindale, William Harvey	Dayton
Middleton, Edward Duncan	Davenport
Naftzger, Jesse Blaine	West Liberty
Pease, Herbert	Collins
Robb, Robert Worth	Linton
Rosenbladt, Fritz	Bayard
Safley, Agnes Isabel	Tipton
B. S., 1899	
Sauerbry, Frank Carl	Strawberry Point
Schroeder, Peter Herman	Traer
Sebern, Richard Clyde	Lake City
Seymour, Sarah Libbie	Iowa City
B. A., 1897; M. A., 1900	
Shahan, Richard Franklin	Avery
Sherbon, John Bayard	Conrad
Siberts, Frank Leslie	Mt. Pleasant
Smeltzer, Cora Huldah	Washington
Smith, Charles Leonard	Iowa City
B. A., 1891	

Souders, John Cloyd	Rock Island, Ill.
Sullivan, Lawrence Francis	Downey
Swift, Charles Henry	Lodgepole, Neb.
Talcott, Don Deroy	Arion
Teufel, John Carl	Moscow
Turner, Edward Marsh	Iowa City
Whitehead, Ellis Herbert	Quimby

THIRD YEAR

Allen, Ray Wallace	Waterloo
B. S., 1902	
Atkins, George Leslie	Spirit Lake
Bailey, Frederick William	Iowa City
B. S., 1902	
Bailey, John William	Iowa City
Besore, Albert Leroy	Ida Grove
Blackmore, Harriet Narcissa	Aplington
Blair, Fred Leroy	Yetter
Bowers, Bert Alfred	Paullina
Bowie, Louis Lee	Atalissa
Brackney, Herman John	Washta
Brown, Joe Wesley	Atlantic
Burk, Frank Oscar	Davenport
B. A., 1901, Augustana College	
Busta, Charles	Manley
Christiansen, Jens	Waterloo
M. Di., 1901, Iowa State Normal	
Collins, Joseph Sylvester	Geneseo, Ill.
Conmey, Roy Merrill	Wyoming
Dunkel, George Kaspar	Iowa City
Echternacht, Arthur Charles	Mechanicsville
Ellyson, Charles Wright	West Liberty
B. S., 1901, Cornell College	
Ericsson, Charles Melvin	Dayton
Etzbach, Joseph Frank	Mendota, Ill.
Fallows, Howard Daniel	Waucoma
Fox, Walter Henry	West Union
Goff, Harry LeRoy	DeWitt
Griffin, Frank Leo	Monmouth
Hall, Ray Edwin	Webster City
Hands, Sidney Gillott	Iowa City

Hanson, Clarence Henry	Ft. Dodge
B. S., 1903	
Happe, Francis Alfred	Grandville
Heard, Mary Kathrina	North East, Pa.
Ph. C., 1892, The University of Michigan	
Hexom, Johan Daniel	Washington Priarie
B. A., 1901, Luther College	
Hoffman, Paul McConnell	Muscatine
B. S., 1901	
Housholder, Harold A.	Stockport
Howell, John Bert	Davis City
Jaenicke, Kurt	Clinton
Joynt, Martin John	Emmetsburg
B. S., 1903	
Kidd, Floyd Snelson	Iowa City
King, Thomas Andrew, Jr.	Monticello
Krider, Edward Edson	Waterloo
Long, Thomas Lee	Cherokee
B. Di,, 1900, Iowa State Normal	
Lynn, Arthur Ray	Iowa City
Matson, John Archie	Kossuth
B. S., 1903	
Maurer, Harvey Charles	Beloit, Wis.
Morton, William Glaspell	Iowa Falls
Murphy, Frank Eugene	Iowa City
Nimocks, Sara Ausbon	Ida Grove
Noland, Clyde Amandee	Boone
Prescott, Lee Washbon	Sioux City
Richey, Albert Roy	Lone Tree
River, Edward Burleigh	Cresco
Sells, Benjamin Bert	Winthrop
Soper, Fred Clifford	Mt. Vernon
Stelling, Charles Henry Andrew	Iowa City
Stockdale, Charles Paul	Lowder, Ill.
Stoltenberg, Walter Peter	Shelby
Thomas, Clarence I.	Cresco
Thompson, James Reed	Shell Rock
Thornburg, William Vestal	Linden
Van Metre, Richard Thompson	Waterloo
Vaughn, Claude Luverne	Coon Rapids
Walker, Evahn Russell	Oelwein
B. S., 1900, Iowa State College	

Weir, Matt Blakely	Cumberland
Wolverton, William Curtis	Ft. Dodge
Yavorsky, George William	Iowa City

SECOND YEAR

Albert, Fred, Jr.	Reinbeck
B. Ph., 1903	
Bateman, Howard William	Hayward, Wis.
Biebeshimer, George Allen	Vinton
Boiler, William Fred	Muscatine
Bowen, Jesse Clark	Maquoketa
Brisbine, Royal Ellis	Downey
Brown, Harry William	Waterloo
Buckley, Fred Watson	Shelby
Burroughs, Paul Revere	Allison
B. S., 1902, Drake University	
Byrnes, Ralph Leonidas	Iowa City
B. S., 1902	
Cammack, William	Salem
Charlton, Max Rosecrans	Clear Lake
B. S., 1903	
Cretzmeyer, Frank Xavier	Waverly
Cuthbert, William Henry	Canton, S. D.
Darland, Fred Lambert	Iowa City
Davis, John Graham	Indianola
Decker, Herbert Morgan	Davenport
D. D. S., 1898	
Decker, Rudolph Frederick	La Moille, Ill.
B. A., 1901, Wartburge College	
Durkee, Harry Charles	Charles City
Eyestone, Mrs. Martha Thrasher	Washington
Gray, Luther Martin	Traer
Harned, Calvin Waldo	Lone Tree
D. D. S., 1903	
Hartwell, Samuel Willard	New Hampton
Hawkinson, Oscar	Millersburg, Ill.
Hennessy, Albert Vincent	Iowa City
Jarvis, Harry Dwight	Rose Hill
Keehl, Walter Edward	Battle Creek
D. D. S., 1903	

Kessler, James Claude	Iowa City
Langworthy, George	Massena
Lashbrook, Elam Eugene	Waverly
Lott, Guy Alexander	Menlo
Love, Francis Leonard	Manson
McGregor, James Charles	Davenport
McLean, Ray Allyn	Fayette

B. S., 1900, Upper Iowa University

McMahon, Thomas	Victor
Maher, Thomas Augustine	Iowa City

B. A., 1902, St. Mary's College, Kansas

Maris, Gerrit	Orange City
Messenger, Fred Henry	Newell
Moore, Walter Newlon,	Iowa City
Mouso, Frank William	Nashua
Mullin, William	Iowa City
Murphy, Harry Wilton	Waterloo
Negus, Alvah	Iowa City

B. A., 1890; M. A., 1899, Penn College

Negus, Mrs. Cora Weber	Iowa City
Orr, William Graham	Iowa City
Quaife, Lawrence Albert	Nashua

B. Ph., 1903, Iowa College

Roberts, Marcus Claude	Mediapolis
Sandven, Nels O.	Thor
Savage, Samuel Micajah	Salem
Smith, Homer A.	Mt. Vernon

B. S., 1902, Cornell College

Struck, Kuno Herbert	Davenport
Stuhler, Louis	Monticello
Taylor, Maude Estella	Iowa City
Thornburg, Willard Newell	Adel
Tierney, Charles Matthew	New Hampton
Walsh, John Graney	Perry

B. S., 1903

Wessel, Perry	Moline, Ill.
West, Walter Ernest	Corydon
White, Edward Harvey	Correctionville
Wickman, Herman Jonn	New Hampton
Williams, Creighton David	Neola
Woods, Arthur Daniel	Greenfield

FIRST YEAR

Allen, George Henry	Harlan
Arthur, William Richard	Hampton
Barker, Ernest Edward	Rowan
Barnett, Reu Lee	Weston
B. Di., 1903, Iowa State Normal	
Bemis, George Arthur	Spencer
Benedict, Byron Irvin	Ida Grove
Bittner, Edward William	Solon
Bone, Merle	Albia
Bowie, Cecil Claude	Atalissa
Breen, William	Monticello
Brittell, Chancey Lee	Maquoketa
Burket, John Anson	Hawarden
Butterfield, Mrs. Rosabell A.	Iowa City
Cadwallader, Joseph Maxwell	Ottumwa
Carter, Edward Albert	Muchakinock
B. Ph., 1903	
Cocklin, William Karl	Ainsworth
Cook, Fred Sutton	Davenport
Dixon, Arthur	Worcester, Mass.
Donovan, William Henry	Oxford
Doran, Thomas Cyrus	West Burlington
Eland, Thomas L.	Mediapolis
B. Di., 1900, Iowa State Normal	
Ensley, Bruce	Iowa City
B. S., 1903, Penn College	
Farrell, John Hogan	Winthrop
Fitzpatrick, John Michael	Greeley
Garvin, Thomas Martin	Ottumwa
Glase, Robert Lincoln	Murray, Utah
Gonterman, Emery Oliver	County Line
Harken, Conreid Rex	Woodburn
Hennessy, Felix Alphonsus	Stawberry Point
Hobart, Agnes Jane	Cherokee
Hotze, Charles	Carson
Howell, Elias Burton	Iowa City
Hudson, Jessie Blanche	Hampton
B. S.; B. L., 1893, Iowa State College	
Huntington, Bert Roy	Creston

Husted, Horace Lee	Muscatine
Jaynes, Manning	Iowa City

M. Di., 1898, Iowa State Normal

Kelly, Ray Arthur	Dell Rapids, S. D.
Leipold, Arthur Thomas	Moline, Ill.
Meents, Diedrich Janssen	Chicago, Ill.

B. S., Steinmann College

Musgrave, John Edwin	Farmington
Neuzil, William James	Iowa City
Oldag, George Charles	Luana
Payne, Orion LeeRoy	Paris, Mo.
Reed, Paul	Fairfield
Richards, Carl Ernest	Red Oak
Roberts, Vernon	Williamsburg
Salisbury, James Hal	Hampton
Schmitt, Adolph Otto	Clinton
Stecker, Mrs. Bertha Elizabeth Schenck	Burlington
Toeller, John Joseph	Cedar Rapids
Tustison, Frank	Iowa City
Voss, Otto Rudolph	Davenport
Ward, Everett Chapman	Renwick
Wells, Nelson Dave	Mt. Pleasant
Wilkinson, Levi Jennings	West Liberty
Willson, Mrs. Marian Orr	Iowa City
Wintenburg, Edward J.	Lamont
Woodcock, Dick	Waverly

UNCLASSIFIED

Bawden, George Stephen	Davenport
Hoover, Alden Robbins	Muscatine

B. S., 1902

Iles, John Clarence	Davenport
Jones, Edward William	Correctionville
Lindsay, Harry Alexander	Independence
McGuire, Roy Alvin	Merrimac
Starbuck, Adelbert Ward	Iowa City

D. D. S., 1898

COMBINED COURSE

Bean, Arthur Neal	Eagle Grove
Bradley, Frank Timothy	Iowa City

Hayden, Clara May	Eldon
Joyce, Edward	Dunlap
Martin, George Henry	Iowa City
Moon, Herbert Lovelace	Iowa City
Pahlas, Henry Martin	Elkader
Will, Frank Arthur	Des Moines

THE NURSES' TRAINING SCHOOL

THIRD YEAR

Johnson, Jennie	Lake City
Martin, Bernice Fidelia	West Union
Schley, Freda Claire	Cedar Rapids
Somes, Candace Amelia	Stanwood
Turk, Helen	Little Rock

SECOND YEAR

De Garmo, Lutie Parmelia	Des Moines
Lesueur, Nancy	Olathe, Kas.
Mahood, Sarah	Peterborough, Ont.
Millard, Bessie Pearl	Red Wing, Minn.

FIRST YEAR

Broadie, Jane Isabel	Fredericksburg
Errickson, Margaret Nina	Monticello
Everett, Lauretta	Cosgrove
Lins, Leta Wilhelmina	Washington
Robertson, Mae	Ontario, Canada
Rooney, Mary Regina	Dubuque

THE COLLEGE OF HOMEOPATHIC MEDICINE

DEGREES CONFERRED JUNE, 1903

Bywater, Edward Napoleon
Graves, Rex Vale
Holman, Henry Delevan
Huff, Ellsworth Abram
Jackson, Anna
Kemp, Malcolm Edwin
Owen, William Roy
Sandy, Benjamin Brooks
Wild, Peter Rowland
Woltman, William Henry

FOURTH YEAR

Adrian, Frank — Sigourney
Bond, David Kline — Lake City
B. S., 1881, Iowa State Normal
Greene, Lynne Birdsall — Reinbeck
Hand, George — Hay Springs, Neb.
Humeston, Frank Enos — Union
Jacobsen, Robert Andrew — Lake View
Lintleman, Fred Richard — Lake City
Loizeaux, Charles Edward — Des Moines
Rogers, Ernest Albert — Iowa City
D. D. S., 1892
Rowat, Harry Lewis — Des Moines
B. S., 1901, Des Moines College

THIRD YEAR

Clark, Carl George — Scranton
Hinsdale, Albert Euclid — Ann Arbor, Mich.
Ingersoll, Perry Grant — Toledo
Kaufman, Ernest Leslie — Bridgewater
Macomb, Thomas T — Paullina
Okerlin, Oscar William — Boone
Parsons, Harry Clifford — Elberon
Quaife, Howard Herman — Nashua
D. D. S., 1903.
Volland, Roscoe Henry — Iowa City
D. D. S., 1892

SECOND YEAR

Alden, Frederick	Des Moines
Bott, George Floyd	Iowa City
Cogswell, John Wilkinson	Cedar Rapids
Ihle, Charles William	Paullina
Kingsbury, Ernest Mills	Iowa City
Royal, Lester Ambrose	Des Moines
Royal, Malcolm Allen	Des Moines
Wildman, Murry	Iowa City

FIRST YEAR

Felt, Garnet Smith	Des Moines
Gates, Frank William	Iowa City
Lewis, David Sylvester	Dubuque
Mosby, George	Postville
Munger, Milton Potter	Cedar Rapids
O'Neal, LeFeber	Walnut, Ill.

UNCLASSIFIED

Stoakes, Charles Ralph	Humboldt

NURSES' TRAINING SCHOOL

THIRD YEAR

Brown, Adelyn Ethel	Cedar Rapids
Rhodes, Charlotte Alice	Sigourney
Wagner, Harriett Daisy	Des Moines
McWilliams, Martha Fern	Cedar Rapids

SECOND YEAR

Cates, Ora W	Manchester
Clark, Sarah Beatrice	Scranton
Engeldinger, Susan	Harper
Rich, Harriette Elise	Manchester
Trier, Sadie	Manchester

FIRST YEAR

Denne, Susana Rosamond	Atlantic
Dunham, Elsie Martha	Manchester
Seibert, Viola R.	Forest City

COLLEGE OF DENTISTRY

DEGREES CONFERRED IN ABSENTIA APRIL 8, 1903

Daly, Eunice Elizabeth
Dunning, Walter Lyle
Lee, Arthur C.
Munger, Francis Ellbriggs, Jr.
Sherman, William Arthur
Waud, Clarence Cary
Meyer, Charles Edwin

DEGREES CONFERRED JUNE, 1903

Bailey, Edgar
Beckman, Fritz Smith
Beeman, Clarence Evander
Bell, Frank Joseph
Bigger, Lee Fisk
Brown, Clarence Aubrey
Clark, Floyd Chester
Crowell, Irving Gardner
De Lano, Courtland Alva
Duncan, Warren
Ellis, Gideon Charles
English, William Kirk
Fordyce, Chester
Gallagher, Oscar Harley
Greene, Oliver Nelson
Harned, Calvin Waldo
Harper, Albert S.
Hemminger, Dave Mitten
Hiett, Will Merriam
Horrabin, Alfred
Houser, Harry Pirnetti
Keehl, Walter Edward
Kepford, Joseph Clarence
Lange, Henry Frederick
Meade, William Joseph
Quaife, Howard Herman
Rittler, Elmer George
Sawyer, Burt Ray
Shannon, Howard Ritchie
Swan, Charles James
Williams, Samuel Clyde
B. S. '01
Wyckoff, Craton Donald

DEGREE CONFERRED NOVEMBER 24, 1903

Smith, Will Samuel

THIRD YEAR

Addington, Earl	Iowa
Bidwell, Everett	Iowa
Brock, Albert Jay	Iowa
Burns, John Joseph	Iowa
Cole, Alvernus Humphrey	Iowa

Cutler, Earle Van Zile	Iowa
*Dieffenbacher, Bemper Letson	Iowa
Duncan, Alvia Lee	Iowa
Eberhart, Frank Vaughan	Iowa
B. S. 1902	
Erb, Benjamin H	Iowa
Fear, Milo Francis	Iowa
Frahm, Frederick William	Iowa
Gardner, Charles Edward	Iowa
Goldthwait, Guy Garfield	Iowa
Hasek, Frank Vaclav	Iowa
Hemsworth, Leroy Clifton	Iowa
Hinsdale, Henry Vaughan	Iowa
Huff, Fay Leslie	Iowa
Humphrey, William Francis	Iowa
Irwin, James Newton	Iowa
Kennedy, James	Illinois
Kulp, Charles Joseph	Iowa
McConnaughey, Ralph Otis	Iowa
McCulla, Roy	Iowa
McIntosh, Walter Scott	Iowa
McKibbin, George Paul	Iowa
McVay, Homer Reese	Iowa
Magruder, George Raymond	Iowa
Maresh, Reginald	Iowa
†Miller, Catherine Marguerite	South Dakota
Moss, William George	Iowa
Munger, Milo William	Iowa
Nies, George Henry	Iowa
Pelton, Henry Clark	Iowa
Rawhouser, Charles David	Iowa
Rugh, Frederick Walter	Iowa
Shontz, Robert Ivan	Iowa
Starbuck, William Ray	Iowa
Story, William Henry	Iowa
Taylor, Edwin Scott	Iowa
Thompson, Earl G.	Iowa
Tinker, Francis Enos	Iowa

*Transferred from another college

†Irregular

Vos, John	Iowa
Watros, Ray Alfonso	Iowa
Westenhaver, Earl H.	Iowa
Wiler, Wesley David	Iowa
Woodruff, Lymon	Iowa
Wyant, Arthur C.	Iowa

SECOND YEAR

Adams, Waldo Johnson	Oregon
Adams, William Claude	Oregon
Arnold, John Rubi	Iowa
Black, Amy Thornton	Iowa
Brown, Mark D.	South Dakota
Buckley, Clarence Roy	Iowa
Christie, Bert Lee	Iowa
Clark, Robert Lane	Iowa
Crawford, Guy	Iowa
Creighton, D. Murto	Iowa
DeMots, Henry	Iowa
Dixon, Frank Leslie	Iowa
Greenawalt, Richard Albert	Iowa
Heykens, Herman	Iowa
Howe, George	Iowa
Hurst, Thomas Henry	Iowa
Jeffers Lyle Lawson	Iowa
Leach, Don Sherman	Iowa
McCord, Alexander Ichabod	Iowa
Mills, Rollin Virgil	Iowa
*Myler, Melvin Wesley	Iowa
Paschal, Karl B.	Iowa
Polley, Lovette Morse	Iowa
Seydel, Robert Ashable	Iowa
Stryker, Clarence Andrew	Iowa
Vail, Glenn Winfred	Iowa
Watland, Clarence	Iowa
Wesley, Rolland DeWitt	Iowa
Whitsell, Loyd Lane	Iowa
Wilkinson, Clifford Austin	Iowa
Williams, Thomas Earl	Iowa

*Irregular

FIRST YEAR

Bechtel, Raymond Emil	Iowa
Chapin, Wayne Herbert	Kansas
Crook, Walter Forest	Iowa
Damon, Robert Enoch	Iowa
Davis, Elmer Richard	Iowa
Davis, William Benjamin	Iowa
Evans, Alfred Leon	Iowa
Farlin, Jacob Anderson	Iowa
*Frank, Arthur Jacob	Iowa
Frey, John Peter	Iowa
Horel, Charles Sidney	Iowa
*Hunsicker, Claude Linvill	Iowa
Knapp, Karl Wilson	Iowa
Lahman, Rush Clark	Iowa
Lister, Clarence Sylvester	Iowa
Moravec, Arthur John	Iowa
Payne, Charles Burton	Iowa
Roosevelt, Theodore Tasheira, Jr.	Iowa
Schultz, Emory Jesse	Iowa
Scovel, John William	Iowa
Schwin, Frederick William	Iowa
Settell, Ansel Reuben	Iowa
Tilden, Julius Fred	Iowa
Van Doren, Orie Elmer	Iowa
*West, Charles Erie	Iowa

UNCLASSIFIED

Molsberry, Frank Roland	Iowa
Rathbone, Don Quincy	Iowa

COMBINED COURSE

Rider, Thomas Thiel	Iowa

*Irregular.

THE COLLEGE OF PHARMACY

DEGREES CONFERRED JUNE, 1903

Book, John Ray
Brown, Adin Noyes
Coad, William Ansley
Collins, Elizabeth Grace
Duncan, Claud Earl
Hanson, John Foss
Head, Scott Wilson
Knutson, Theodore H.
Lohmann, Fred Christ
McLennan, John Sailor
Nixon, Samuel Ross
Riemcke, Charles August
Webbles, William Fred
Zimmerman, Charles Joseph

B, A., 1901, Hedding College, Ill.

GRADUATE STUDENT IN PHARMACY

Brown, Adin Noyes — Missouri Valley
Ph. G., 1903

SECOND YEAR

Benn, Arthur Braxton	Gladbrook
Coffman, Walter Thomas	South English
Collett, Clara Marie	Iowa City
Dunn, Mrs. Minnie	Iowa City
Farley, John Aloysius	Waukon
Fritzel, Clinton George	Conrad
Heide, Charlotte Andria	Durand, Ill.
Henderson, Lauren Roy	Moscow
Newell, James Stewart	Grundy Center
Novak, Joseph Henry	Iowa City
Porter, Erl Watt	Gilchrist, Ill.
Rose, Edward Spangler	Vinton
Selby, Ernest Standley	Guthrie Center
Whetstone, Robert Reed	Iowa City
Whiting, Nathan Dudley	Iowa City

FIRST YEAR

Allen, Earl	Unionville
Coykendall, Wayne Madison	Strawberry Point
Davenport, Roy Nelson	Lenox

Friedholt, George Louis	Davenport
Humphrey, Rollin Edward	Carroll
Manley, Bernard Edward	Sloan
Moore, Herbert Morse	Iowa City
Richmond, Raymond Everett	Dallas Center
Siebke, Henry	Durant
Van Steenbergen, John	Sioux Center

UNCLASSIFIED

Brady, Joseph Thomas	Waterloo
McLaughlin, Thomas Francis	Wapello
Swords, Lloyd William	Iowa City

STUDENT OF THE COLLEGE OF MEDICINE TAKING PHARMACY AS ELECTIVE WORK

Arthur Daniel Woods	Greenfield

SUMMARY OF REGISTRATION

THE SUMMER SESSION 1903

	MEN	WOMEN	TOTAL
Graduate College	29	49	78
College of Liberal Arts	47	56	103
Library Training School	0	32	32
College of Medicine—Nurses' Training School	0	1	1
College of Pharmacy	0	1	1
Total	76	139	215

THE GRADUATE COLLEGE

Candidates for the degree of Ph. D.	22	3	25
Candidates for the degree of M. A.	34	19	53
Candidates for the degree of M. S.	31	7	38
Candidates for the degree of C. E.	2	0	2
Students not candidates for degrees	11	57	68
Total	100	86	186

THE COLLEGE OF LIBERAL ARTS

FOURTH YEAR

Classical	4	8	12
Philosophical A	4	10	14
Philosophical B	16	10	26
Philosophical	9	7	16
Scientific	23	3	26
Civil Engineering	13	0	13
Electrical Engineering	1	0	1
Total	70	38	108

THIRD YEAR			
Classical	12	13	25
Philosophical A	6	10	16
Philosophical B	13	12	25
Philosophical	7	11	18
Scientific	13	8	21
Civil Engineering	18	0	18
Total	69	54	123
SECOND YEAR			
Classical	5	5	10
Philosophical A	0	2	2
Philosophical B	5	7	12
Philosophical	30	37	67
Scientific	17	5	22
Civil Engineering	19	0	19
Electrical Engineering	4	0	4
Mining Engineering	2	0	2
Total	82	56	138
FIRST YEAR			
Classical	8	6	14
Philosophical A	1	0	1
Philosophical	28	26	54
Scientific	31	11	42
Civil Engineering	12	0	12
Electrical Engineering	8	0	8
Mining Engineering	1	0	1
Total	89	43	132
Total in four college classes	310	191	501
Unclassified students	39	75	114
Professional students taking elective work	54	3	57
Total in the College of Liberal Arts	403	269	672
Library Training School*	0	32	32

*The remainder of the Summer Session has been already included under the Graduate College and the College of Liberal Arts.

THE COLLEGE OF LAW

Third Year	52	0	52
Second Year	51	0	51
First Year	60	0	60
Unclassified	1	0	1
Combined Course	12	0	12
Students in the College of Liberal Arts taking elective work	7	0	7
Total	183	0	183

THE COLLEGE OF MEDICINE

Fourth Year	45	5	50
Third Year	61	3	64
Second Year	59	3	62
First Year	53	5	58
Unclassified	7	0	7
Combined Course	7	1	8
Nurses' Training School	0	15	15
Total	232	32	264

THE COLLEGE OF HOMEOPATHIC MEDICINE

Fourth Year	10	0	10
Third Year	9	0	9
Second Year	8	0	8
First Year	6	0	6
Unclassified	1	0	1
Nurses' Training School	0	12	12
Total	34	12	46

THE COLLEGE OF DENTISTRY

Third Year	48	1	49
Second Year	31	0	31
First Year	25	0	25
Unclassified	2	0	2
Combined Course	1	0	1
Total	107	1	108

THE COLLEGE OF PHARMACY

Graduate	1	0	1
Second Year	12	3	15
First Year	10	0	10
Unclassified	3	0	3
Students taking Pharmacy as elective work	1	0	1
Total	27	3	30

Total including duplicates	1086	435	1521
Duplicates	117	11	128
Total excluding duplicates	969	424	1393

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BULLETIN OF THE STATE UNIVERSITY OF IOWA

NEW SERIES NO. 108 JUNE, 1905

CALENDAR

OF THE

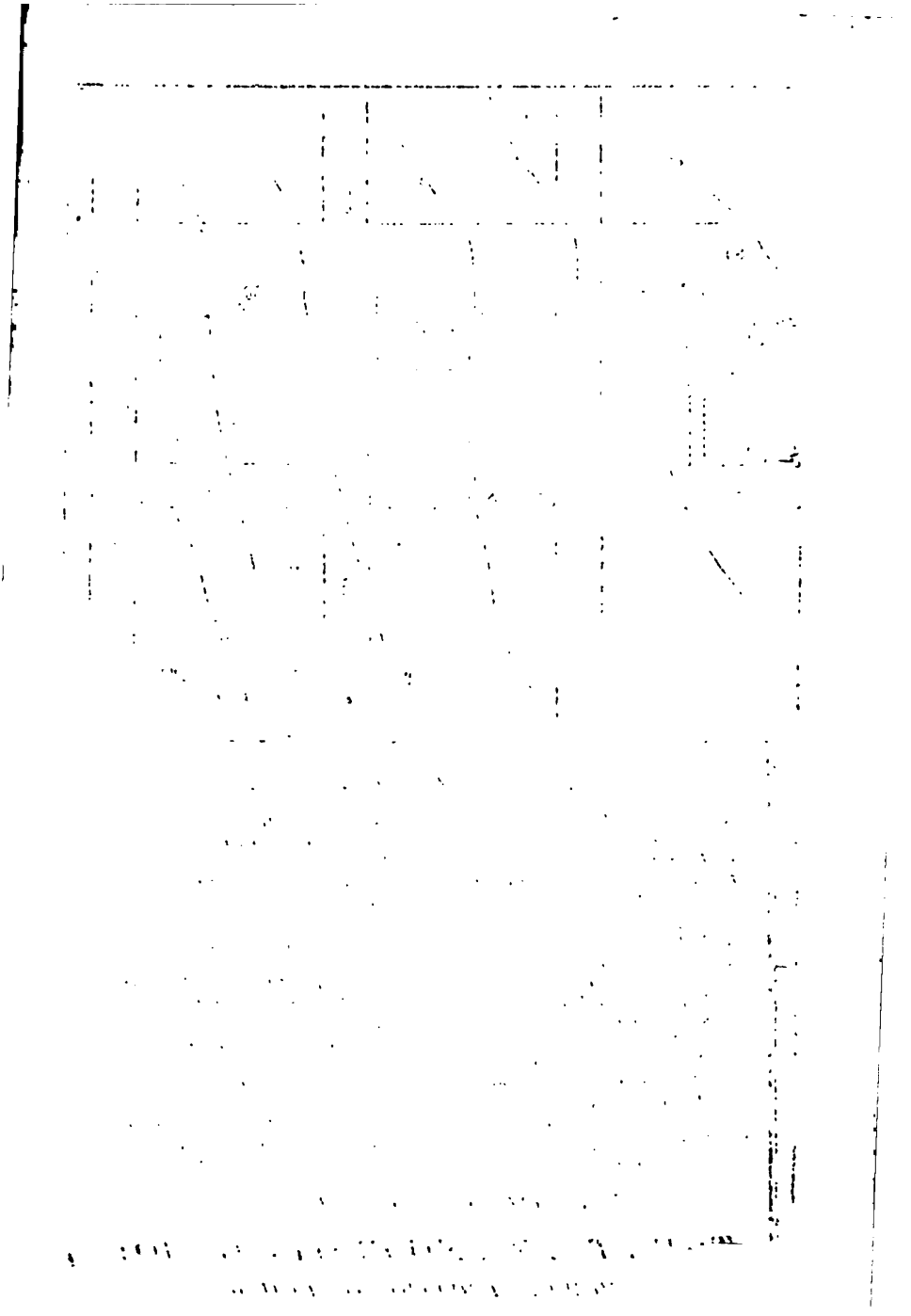
STATE UNIVERSITY OF IOWA

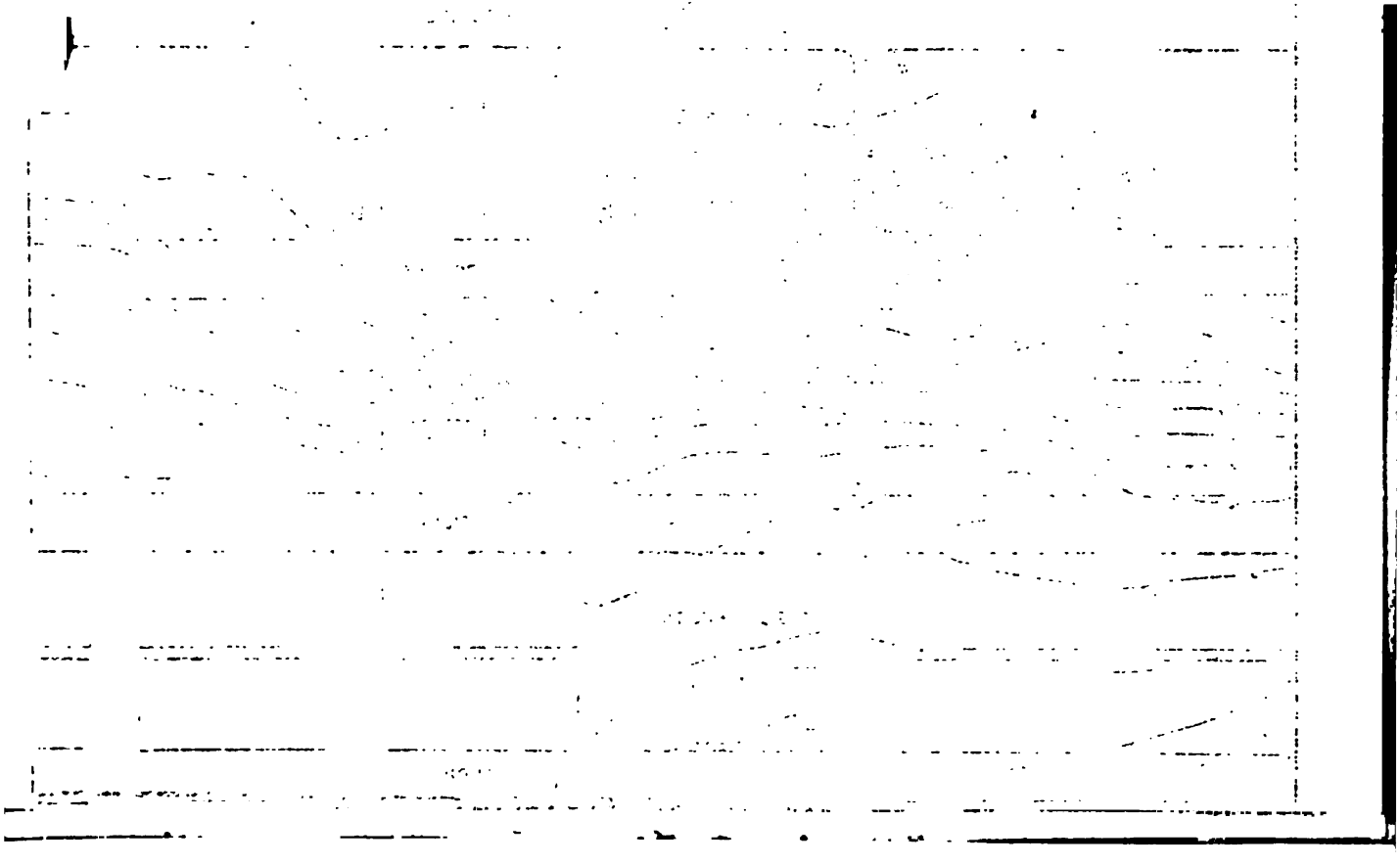
IOWA CITY

1904-1905

PUBLISHED BY THE UNIVERSITY
IOWA CITY, IOWA
1905

THE UNIVERSITY BULLETINS PUBLISHED BY THE UNIVERSITY ARE ISSUED EVERY SIX WEEKS, DURING THE ACADEMIC YEAR, AT LEAST SIX NUMBERS EVERY CALENDAR YEAR. ENTERED AT THE POST OFFICE AS SECOND CLASS MAIL MATTER.





THE

STATE UNIVERSITY OF IOWA

IOWA CITY

CALENDAR

1904-1905

PUBLISHED BY THE UNIVERSITY
IOWA CITY, IOWA
1905

ORGANIZATION

The State University of Iowa embraces:
THE COLLEGE OF LIBERAL ARTS
THE COLLEGE OF LAW
THE COLLEGE OF MEDICINE
THE COLLEGE OF HOMEOPATHIC MEDICINE
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Special announcements giving full information concerning any of these colleges or schools will be sent to any address upon request. In writing for announcements mention the college or school in which you are particularly interested. Address

GEORGE E. MACLEAN, President,
Iowa City, Iowa.

THE UNIVERSITY CALENDAR

1905-1906

1905

June 9, Friday	Anniversary exercises of the forensic societies, 8 P. M.
June 11, Sunday	Baccalaureate address, 4 P. M.
June 12, Monday	Class Day exercises. Battalion drill and dress parade. Review by the Governor of Iowa, 4 P. M.
June 13, Tuesday	Alumni Day. Phi Beta Kappa address, 10 A. M. Alumni business meeting, 2 P. M. Alumni dinner, 6 P. M.
June 14, Wednesday	Commencement, all colleges, 10 A. M. President's reception, 4 P. M.
June 15, 16, Thursday, Friday	Examinations for admission to all colleges.
June 17, Saturday	Registration for the Summer Session begins, 9 A. M.
June 19, Monday	Instruction begins in the Summer Session, 7 A. M.
July 27, 28, Thursday, Friday	Examinations by the State Board of Educational Examiners.
July 29, Saturday	Summer Session ends.

SUMMER VACATION

Sept. 18, Monday	Examinations for admission. Registration in all colleges at 2 P. M. Students may register by mail or in person at any time during the summer vacation.
Sept. 21, Thursday	Instruction begins in all colleges, 8 A. M. University Convocation; address by the President, 4 P. M.
Nov. 17, Friday	First quarter ends, 10 P. M.
Nov. 20, Monday	Second quarter begins, 8 A. M.
Nov. 30, Thursday	Thanksgiving Day, all exercises suspended.
Dec. 21, Thursday	Holidav recess begins, 10 P. M.

1906

Jan. 3, Wednesday	Work resumed in all colleges.
Feb. 2, Friday	First semester ends, 10 P. M.
Feb. 5, Monday	Second semester begins, 8 A. M.
Feb. 21, Wednesday	Annual lecture of the Sigma Xi, 8 P. M.
Feb. 22, Thursday	University convocation in celebration of Washington's birthday, 10:30 A. M.
April 11, Wednesday	Third quarter ends, 10 P. M. All exercises suspended until the following Tuesday.
April 17, Tuesday	Fourth quarter begins, 8 A. M.
May 30, Wednesday	Memorial Day; all exercises suspended.
June 8, Friday	Anniversary exercises of the forensic societies, 8 P. M.
June 10, Sunday	Baccalaureate address, 4 P. M.
June 11, Monday	Class day exercises.
	Battalion drill and dress parade. Review by the Governor of Iowa, 4 P. M.
	Class play, 8 P. M.
June 12, Tuesday	Alumni day.
	Phi Beta Kappa address, 10 A. M.
	Alumni business meeting, 2 P. M.
	Alumni dinner, 6 P. M.
June 13, Wednesday	Commencement, all colleges, 10 A. M.
	President's reception, 4 P. M.
June 14, 15, Thursday, Friday	Examinations for admission to all colleges.
June 16, Saturday	Registration for the Summer Session 9 A. M.
June 18, Monday	Instruction begins in the Summer Session, 7 A. M.
July 26, 27, Thursday, Friday	Examinations by the State Board of Educational Examiners.
July 28, Saturday	Summer Session ends.

SUMMER VACATION

Sept. 17, Monday	Examinations for admission.
	Registration in all colleges, 2 P. M. Students may register by mail or in person at any time during the summer vacation.
Sept. 20, Thursday	Instruction begins in all colleges, 8 A. M.
	University convocation; address by the President, 4 P. M.

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BOHUMIL SHIMEK, M. S., Curator of the Herbarium.

PUBLIC LECTURES

1904.

Jan. 8, Baconian, "Sanitary Engineering," (illustrated), Professor Charles S. Magowan.

Jan. 15, Baconian, "The Northern Constellations," Mr. W. E. Beck.

Jan. 20, Department of Zoology, "The Bahamas and Tortugas," Professor C. C. Nutting.

Jan. 22, Baconian, "Ethics, its Nature and its Place among the Sciences," Dr. H. E. Stuart.

Jan. 27, Department of Zoology, "Havana and its Harbor," Professor C. C. Nutting.

Jan. 29, Baconian, "Degeneracy—its Causes, Signs and Results," (illustrated) Dr. Eugene Talbot.

Feb. 3, Department of Zoology, "The Highways and Byways of Naples," Professor C. C. Nutting.

Feb. 5, Baconian, "Physics Applied in Medicine," Dr. A. J. Burge.

Feb. 10, Department of Zoology, "The Naples Zoological Station and Excursions to Capri and Ischia," Professor C. C. Nutting.

Feb. 12, Baconian, "The Automobile," (illustrated), Mr. B. J. Lambert.

Feb. 17, Department of Zoology. "Pompeii, the Buried City," Professor C. C. Nutting.

Feb. 19. Baconian, "Stereoscopic Projection," Mr. C. F. Lorenz.

Feb. 22, Convocation Address, "Back to Washington," Professor W. C. Wilcox.

Feb. 24, Department of Zoology, "The Cliff Dwellers of the Mesa Verde," Professor C. C. Nutting.

Feb. 26, Baconian, "The Physiology of Sleep," Mr. J. J. Lambert.

Feb. 28, Department of English, "The England that Chaucer Knew," Professor J. G. Gilchrist.

Mar. 2, Department of Zoology, "The Bottom of the Sea, its Physical Conditions and Animal Life," Professor C. C. Nutting.

Mar. 4, Baconian, "The White Lands of New Mexico," (illustrated), Professor Bohumil Shimek.

Mar. 9, Department of Zoology, "Life on Board the U. S. S. Albatross," Professor C. C. Nutting.

Mar. 11, Baconian, "The Musical Scale," Mr. W. M. Boehm.

Mar. 16, Department of Zoology, "The Hawaiian Islands, Oahu, Maui and Molokai," Professor C. C. Nutting.

Mar. 23, Department of Zoology, "The Outliers of the Hawaiian Group, Laoysan, Kauai, etc," Professor C. C. Nutting.

Mar. 25, Baconian, "Yellowstone National Park," (illustrated), Professor F. A. Wilder.

Mar. 29, Department of History, "The Eastern Question," Professor W. C. Wilcox.

Apr. 1, Baconian, "Some Developments in Electric Railroading," Professor R. T. Wells.

Apr. 4, Department of French, "Paris sans l'agence Cook," Edouard Dupouey.

Apr. 8, Baconian, "The Hydrographical Work of the U. S. Government With Special Reference to the Arid Regions," Professor A. G. Smith.

Apr. 22, Baconian, "Some Remarkable Habits of Spiders," (illustrated), Professor H. F. Wickham.

June 25, Department of History, "Danton, the Ruler of the French Revolution," Professor W. C. Wilcox.

June 27, Department of Physics, "The Valdris, a typical Country District of Norway," Professor A. A. Veblen.

June 29, Department of Geology, "The Mammoth and Wyandotte Caves," Professor Frank A. Wilder.

July 2, Department of History, "Talleyrand, the Prince of European Diplomacy," Professor W. C. Wilcox.

July 7, Department of Public Speaking, "My Lady's Ring," (recital), Miss Katherine Jewell Everts.

July 8, Department of Latin, "A Day in Pompeii," Professor Franklin H. Potter.

July 9, Department of History, "Metternich, the Dictator of the Reaction." Professor W. C. Wilcox.

July 12, "American and Educational Expansion," President George E. MacLean.

July 14, "Florence, the City of Romola," Professor H. G. Buehler.

July 15, "Iowa Authors," Honorable Johnson Brigham.

July 16, Department of History, "Cavour, the Creator of Modern Italy," Professor W. C. Wilcox.

July 18, Department of Botany, "The Deserts of New Mexico," Professor Bohumil Shimek.

July 19, "The International Institution for Girls and Its Founder, Mrs. Alice Gordon Gulick," Miss Elizabeth Gordon.

July 21, "The Bible as Literature," Professor Huber G. Buehler.

July 22, Department of Public Speaking, "Madalenette," (recital), Miss Ethel Elliott.

July 23, Department of History, "Bismarck, the Maker of the German Empire," Professor W. C. Wilcox.

July .., Department of Public Speaking, "The Lane That Had No Turning," (lecture recital), Miss Ethel Elliott, Assistant in Public Speaking, Smith College.

July 25, Department of History, "Gladstone, the Model of English Statesmanship," Professor W. C. Wilcox.

July 29, Convocation Address, "Some Lessons for American High Schools, Suggested by a Study of German Education," Professor Frederick E. Bolton.

Sept. 30, Baconian, "Coal Tar," Professor W. J. Teeters.

Oct. 7, Department of Surgery in the Homeopathic Medicine, "Aneurisms," Dr. J. G. Gilchrist.

Oct. 14, Baconian, "The Salmon and Salmon Fisheries," (illustrated), Professor C. C. Nutting.

Oct. 20, Auspices of Middletonian Society, "Why We Sympathize With Japan," Professor W. C. Wilcox.

Oct. 21, Baconian, "The Interglacial Deposits of Iowa," (illustrated), Professor Samuel Calvin.

Oct. 26, Auspices of Sigma Xi, "Upsala University and Some of Its Noted Scientists," Professor A. A. Veblen.

Oct. 28, Baconian, "The Response of Plants to Human Preference," (illustrated), Professor T. H. Macbride.

Nov. 2, Auspices of Philosophical Club, "A Mathematical

Prodigy," President W. L. Bryan, Indiana State University.

Nov. 4, Baconian, "Transcendental Numbers," Dr. J. V. Westfall.

Nov. 11, Baconian, "Insect Life in the Great Basin," (illustrated), Professor H. F. Wickham.

Nov. 13, Auspices of the Y. M. C. A., "The Final Stand of the Christian Religion," Professor W. C. Wilcox.

Nov. 18, Baconian, "The Reaction of a Conducting Core on A Solenoid," Dr. R. T. Wells.

Dec. 2, Baconian, "Food Preservatives," (illustrated), Dr. H. W. Rockwood.

Dec. 7, Auspices of Archeological Society, "Primitive Music of the Southwest," Charles F. Lummis.

Dec. 16, Baconian, "A Trip to the Lick Observatory," Professor W. G. Raymond.

Dec. 16, Department of Latin, "Virgil Illustrated," Professor Franklin H. Potter.

1905.

Jan. 6, Baconian, "A Mathematical Attempt to Mitigate the Severity of a Torrid Climate," Professor S. M. Woodward.

Jan. 11, Auspices of School of Political and Social Science, "Porto Rico," (illustrated), Professor Samuel McCune Lindsay, University of Pennsylvania.

Jan. 13, Baconian, "The History of a Piece of Coal," (illustrated), Mr. C. L. Bryden.

Jan. 20, Baconian, "The Marine Biological Laboratory at Woods Hole," (illustrated), Mr. J. J. Lambert.

Jan. 27, Baconian, "An Iowa Case of Vision Acquired in Adult Life," Dr. J. B. Miner.

Sept. to Jan. Assembly. Addresses by Professor Frederick E. Bolton, Dr. Henry J. Prentiss, Mr. M. G. Wyer, Professor H. F. Wickham, the Reverend Duren J. H. Ward, Professor Benjamin F. Shambaugh, President H. C. King of Oberlin College, Professor A. G. Smith, Professor L. M. Byers, Reverend Edward B. Hodge, Dr. F. E. Horack, Assistant Professor Stephen H. Bush.

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President, 1899. * 603 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth; LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
32 Bloomington St. (108 Liberal Arts)

PHILO JUDSON FARNSWORTH, B. A., 1854; M. A., 1857; M. D., 1858, Vermont; L... D., 1860, Coll. Phys. and Sur., New York.

Professor Emeritus of Materia Medica and Diseases of Children in the College of Medicine, 1868. Clinton, Iowa

JOHN CLINTON SHRADER, M. D., 1865, Coll. Phys. and Sur., Keokuk; M. D., Long Island Coll. Hospital, Brooklyn, N. Y.; M. A., 1877; LL. D., 1894, Western College.

Professor Emeritus of Obstetrics and Diseases of Women, 1869. 811 College St.

SAMUEL CALVIN, M. A., 1874; LL. D., 1904; Cornell College; PH. D., 1888, Lenox; F. G. S. A,

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

EMLIN MCCLAIN, B. PH., 1871; B. A. 1872; LL. B., 1873; M. A., 1882; LL. D., 1891, Iowa; LL. D., 1891, Findlay College.

Honorary Professor of Jurisprudence, 1881. (Old Capitol)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

JAMES GRANT GILCHRIST, M. D., 1863; M. A., 1890, Pennsylvania.

Professor of Surgery and Surgical Gynecology, College of Homeopathic Medicine, 1882.
615 N. Dubuque St. (Homeopathic Hospital)

*Date following title indicates year of appointment to service in the University. The names of the professor, instructors and fellows are arranged in groups according to seniority of appointment to present rank.

EMIL LOUIS BOERNER, PH. G., 1876, Philadelphia Coll. of Phar.; Phar. D., 1896, Iowa.

Professor Emeritus of Practical Pharmacy, 1885.
325 N. Dubuque St.

CHARLES HERBERT COGSWELL, M. D., 1866, Hahnemann College, Chicago.

Professor Emeritus of Obstetrics and Diseases of Women in the College of Homeopathic Medicine, 1885.
Cedar Rapids, Ia.

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D., 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and head of the Department of Philosophy, 1887.
704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor of Experimental Physics, and Secretary of the Faculty of the College of Liberal Arts, 1883.
707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, *Director of the School of Applied Science, 1886. 612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1886.
922 E. Washington St. (304 Science Hall)

JAMES RENWICK GUTHRIE, B. S., 1878; M. A., 1881, Lenox; M. D., 1884, Iowa.

Professor of Obstetrics and Gynecology, and Dean of the College of Medicine, 1889.
Dubuque, Ia. (University Hospital)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor and Head of the Department of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.
11 E. Bloomington St. (205 Liberal Arts)

SAMUEL HAYES, B. S., 1869; M. S. 1876, Michigan; LL. B., 1891, Iowa.

Professor of Law, 1891. 616 N. Dubuque St. (201 Old Capitol)

ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A., 1901, Amherst; M. D., 1895, Iowa; PH., D., 1904, Yale.

Professor and Head of the Department of Chemistry and Toxicology, 1888. 1011 Woodlawn. (Chemical Laboratory)

*Resigned January 26, 1905.

GEORGE ROYAL, M. D., 1882, N. Y. Hom. Med. Coll.

Professor of Materia Medica and Therapeutics, and Dean of the College of Homeopathic Medicine, 1892.
Des Moines, Iowa. (Hom. Hospital)

JAMES WILLIAM DALBEY, B. S., 1885; M. D., 1888, Illinois Coll.

Professor Emeritus of Ophthalmology in the College of Medicine, 1889. Cedar Rapids, Iowa

CHARLES SUMNER CHASE, B. A., 1871, Cedar Valley Sem.; B. S., 1874, I. S. C.; M. D., 1882, Rush Medical Coll.; M. A., 1895, Iowa.

Professor of Materia Medica and Therapeutics in the College of Medicine, 1892.
Waterloo, Iowa (University Hospital)

WALTER LAWRENCE BIERRING, M. D., 1892, Iowa.

Professor of Theory and Practice and Clinical Medicine, and Secretary of the Faculty, College of Medicine, 1893.
Cor. Governor St. and Iowa Ave. (Laboratory Hall)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Head of the Department of History, and Professor of American History, 1894.
629 N. Dubuque St. (222 Liberal Arts)

FRANK THOMAS BREENE, D. D. S., 1883; M. D., 1893, Iowa.

Professor of Operative Dentistry, and Therapeutics, and Superintendent of Operative Clinic, 1888.
419 N. Clinton St. (Dental Hall)

WILLIAM SUITS HOSFORD, B. A., 1883; D. D. S., 1892, Iowa.

Professor of Dental Prosthesis, and Dean of the College of Dentistry, 1893. 505 College St. (1 Dental Hall)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1893. 311 Ronalds St. (120 Liberal Arts)

GILBERT LOGAN HOUSER, B. S., 1891; M. S. 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Biology, 1892.
422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895. 219 N. Clinton St. (202 Liberal Arts)

WILLIAM ROBERT WHITEIS, B. S., 1892; M. D., 1895; M. S., 1895, Iowa.

Professor of Histology and Embryology in the College of Medicine, 1898.
220 S. Johnson St. (Histological Laboratory.)

LEE WALLACE DEAN, B. S., 1894; M. S., 1896; M. D., 1896, Iowa.

Professor of Ophthalmology, Otology, Rhinology and Laryngology, 1898. 3 Bloom Terrace. (University Hospital)

ELMER ALMY WILCOX, B. A., 1891, Brown.

Professor of Law, Secretary of the University Senate, and Secretary of the Law Faculty, 1899.
1026 Washington St. (104 Old Capitol)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.

Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE CALL, B. A., 1880; M. A., 1883, Iowa.

Professor of Greek Language and Literature, 1885.
21 N. Dubuque St. (106 Liberal Arts)

THE REV. HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.

Professor of Public Speaking, 1900.
303 N. Capitol St. (312 Liberal Arts)

THE REV. ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.

Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty, 1900. 7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900.
1019 College St. (217 Liberal Arts)

WILLIAM J. BRADY, D. D. S., 1886, Iowa.

Professor of Orthodontia and Dental Technic, 1899.
1027 College St. (Dental Hall)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S., School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A; B. S., 1904; LL B., 1904. Iowa.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901. Clinton St. (Armory)

CHARLES NOBLE GREGORY, B. A., 1871; LL. B., 1872; M. A. 1876; LL. D., 1901, Wisconsin.

Professor of Law, and Dean of the College of Law, 1901.
227 N. Clinton St. (105 Old Capitol)

ERNEST ALBERT ROGERS, D. D. S., 1892, Iowa.

Professor of Dental and Regional Anatomy, and Clinical Demonstrator in the College of Dentistry, 1893.
West Side (Dental Hall)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890. 529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897.
204 Fairchild St. (211 Liberal Arts)

WILBER JOHN TEETERS, B. S., 1893; M. S., 1898, Mt. Union College; PH. C., 1895, Michigan.

Professor of Pharmacognosy, Director of the Pharmaceutical Laboratory, and Dean of the College of Pharmacy, 1895. West Side. (Chemical Laboratory)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900.
222 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.

Professor in Education, and Inspector of High Schools, 1901.
215 Fairchilds St. (216 Liberal Arts)

WILLIAM JEPSON, M. D., 1886, Iowa; B. S., 1890, University of the Northwest; M. D., 1891, Jefferson Medical College; M. D., 1891, Pennsylvania; L. R. C. S., and L. R. C. P., Edinburgh, and L. R. C. P. and S., Glasgow, 1897.

Professor of Surgery in the College of Medicine, 1902.
Sioux City, Iowa (University Hospital)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894.
911 Iowa Ave. (308 Science Hall)

LAWRENCE MARSHALL BYERS, B. A., 1890, Penn College; M. A., 1891, Haverford; LL. B., 1893, Yale.

Professor of Law, 1903. 430 N. Clinton St. (202 Old Capitol)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903.
603 N. Dubuque St. (106 Science Hall)

WILLIAM LE CLAIRE BYWATER, M. D., 1897, Iowa; O. et A. Chir., 1900, New York Ophthalmic.

Professor of Ophthalmology and Otology in the College of Homeopathic Medicine, Director of the Homeopathic Hospital, and Secretary of the Faculty of the College of Homeopathic Medicine, 1900.
314 Church St. (Hom. Hospital)

BENJAMIN RICHARD JOHNSTON, M. D., 1893, Hering College, Chicago.

Professor of Theory and Practice, College of Homeopathic Medicine, 1900. Cedar Rapids, Iowa. (Hom. Hospital)

FREDERICK JACOB BECKER, M. D., 1886, Iowa; M. D., 1887, Hahnemann Med. College, Philadelphia.

Professor of Obstetrics and Gynecology, College of Homeopathic Medicine, 1902.
919 E. College St. (Hom. Hospital)

GEORGE VAN INGEN BROWN, D. D. S., 1881, Penn. College of Dental Surgery; M. D., 1895, Milwaukee Medical College; C. M., 1886, Milwaukee Medical College; B. A., 1899, Northern Illinois College.

Professor of Dental Pathology and Oral Surgery in the College of Dentistry, 1902.
Milwaukee, Wis. (Dental Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.

Professor of Municipal and Sanitary Engineering, 1896.
304 Summit St. (Engineering Hall)

ARTHUR GEORGE SMITH, B. PH., 1891; M. A., 1895, Iowa.

Professor of Physics and Mechanics. 1893.
West Side. (Hall of Physics)

JOHN GEORGE CHALMERS, B. A., 1901, Lafayette.

Professor and Director of Physical Training and Athletics, 1903.

JOHN THOMAS MCCLINTOCK, B. A., 1894, Parsons; M. D., 1898, Iowa.

Professor of Physiology in the Colleges of Medicine, 1897.
425 Iowa Ave. (Physiological Laboratory)

BARRY GILBERT, B. A., 1899, LL. B., 1901, Northwestern.

Professor of Law, 1903. 124 Church St. (204 Old Capitol)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Professor of Commerce and Statistics in the Department of Political Economy and Sociology, 1898.
505 Washington St. (209 Liberal Arts)

HENRY ALBERT, B. S., 1900; M. S., 1902; M. D., 1902, Iowa.

Professor of Pathology and Bacteriology, 1901. (Laboratory Hall.)
120 E. Market St.

HENRY JAMES PRENTISS, M. E., 1889, Stevens Institute of Technology; M. D., 1898, Bellevue Hospital Medical College.

Professor of Anatomy 1904. West Side. (Hall of Anatomy)

WILLIAM GALT RAYMOND, C. E., 1884, Washington University.

Professor of Civil Engineering and Director of the School of Applied Science, 1904. 606 S. Johnson St. (17 Liberal Arts)

SHERMAN MELVILLE WOODWARD, M. S., 1893, Washington University; M. A., 1896, Harvard.
Professor of Steam Engineering, 1904.
4 Bloom Terrace. (Engineering Hall)

HORACE EMERSON DEEMER, LL. B., 1879; LL. D., 1904, Iowa.
Honorary Professor of Jurisprudence, 1899.
(Old Capitol)

GEORGE T. FLOM, B. L. 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.
Acting Professor in charge of Scandinavian Languages and Literatures, 1900. 609 Summit St. (10 Liberal Arts)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.
Assistant Professor of German, 1892.
303 East Burlington St. (102 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.
Assistant Professor of German, 1898.
225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.
Assistant Professor of French, 1901.
127½ S. Dubuque St. (120 Liberal Arts)

ALBERTUS JOSEPH BURGE, B. S., 1897; M. S., 1899; M. D., 1900, Iowa.
Assistant Professor of Surgery, College of Medicine, 1901.
22 1-2 S. Clinton St. (Hospital)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.
Assistant Professor in charge of Electrical Engineering, 1903. 330 N. Linn St. (Electrical Engineering Hall)

HERBERT CLIFFORD DORCAS, B. PH., 1895, Iowa; M. A., 1903, Columbia.
Assistant Professor of Education, University Examiner, and Registrar, 1895. 429 Ronalds St. (108 Old Capitol)

GERSHOM HYDE HILL, B. A., 1871, Iowa Coll.; M. D., 1874, Rush Medical; M. A., 1881, Iowa Coll.
Lecturer on Insanity, 1890. Des Moines, Iowa

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A. 1880, Iowa; LL. D. 1904, Coe College.
Lecturer on Education, 1891. Cedar Rapids, Iowa

JOHN BLAIR KESSLER, M. D., 1887, Iowa.
Lecturer and Clinical Instructor in Dermatology in the College of Medicine, 1899.
Cor. Clinton and Washington Sts.

GEORGE EDWARD DECKER, B. S., 1895; M. D., 1897, Iowa.
Lecturer on Pediatrics in the College of Medicine, 1900.
Davenport, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.
Lecturer on Journalism, 1900. Cedar Rapids, Iowa

JENNINGS PRICE CRAWFORD, M. D., 1893, Iowa.
Lecturer on Surgical Technic, 1900. Davenport, Iowa

THEODORE LINCOLN HAZARD, M. D., 1883, Michigan.
Lecturer and Assistant in the Department of Obstetrics, College of Homeopathic Medicine, 1892.
114 Fairchild St. (Homeopathic Hospital)

ROSCOE HENRY VOLLAND, M. Di., 1899, I. S. N. S.; D. D. S., 1902, Iowa.
Lecturer on Operative Dentistry, 1902.

HENRY M. TOWNER, Corning, Iowa.
Lecturer on Law, 1904.

CARL LEOPOLD VON ENDE, B. S., 1893, M. S., 1894, Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell Univ.; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899. (12 Liberal Arts)

*SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900, Johns Hopkins.
Instructor in English, 1900.

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Biology, 1898.
120 E. Market St. (104 Science Hall)

JOHN P. MULLIN, M. D., 1893, Iowa.
Demonstrator of Anatomy, 1901. 104 E. Bloomington

SAM BERKLEY SLOAN, B. A., 1899, Nebraska.
Instructor in English, 1899.
506 N. Linn St. (118 Liberal Arts)

HENRY MORROW, JR., D. D. S., 1897, Iowa.
Demonstrator of Prosthetic Dentistry.
College St. (Dental Hall)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902.
120 N. Dodge St. (317 Liberal Arts)

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*Resigned, January 1, 1905.

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902.
223 N. Capitol St. (205 Liberal Arts)

ALDEN ROBBINS HOOVER, B. S., 1902, Iowa.
Instructor in Histology and Embryology, 1901.
213 E. Market St. (Laboratory Hall)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E., 1901, Iowa.
Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A. 1900, Iowa.
Instructor in English, 1900. (226 Liberal Arts)

ZADA MARY COOPER, PH. G., 1897, Iowa.
Instructor in Pharmacy, 1897.
505 S. Dubuque St. (Pharmaceutical Laboratory)

ANFIN EGDAHL, B. S., 1900, Wisconsin; M. D., 1904, Johns Hopkins Medical School.
Instructor in Pathology and Bacteriology, 1904.
509 Jefferson St. (General Laboratory.)

CHARLES LAZARUS BRYDEN, E. M., 1902; B. S. in Chemistry 1904, Lafayette College.
Instructor in Mining and Metallurgy, 1904.
402 Church St. (Chemical Laboratory.)

CHARLES THAYER LINCOLN, B. S., 1901, Massachusetts Institute of Technology.
Instructor in Chemistry, 1904.
4 E. Market St. (Chemical Laboratory)

EDWARD LEWIS DODD, B. A., 1897; M. A., 1901, Western Reserve University; M. A., 1902; PH. D., 1904, Yale.
Instructor in Mathematics, 1904.
526 N. Linn St. (115 Liberal Arts)

WILLIAM JAY KARSLAKE, B. S., 1891; M. S., 1894, Lafayette; PH. D., 1895, Johns Hopkins.
Instructor in Chemistry, 1904.
935 Iowa Ave. (Chemical Laboratory)

JAMES BURT MINER, B. S., 1897; LL. B., 1899; M. S., 1901, Minnesota; PH. D., 1903, Columbia.
Instructor in Philosophy, 1904.
430 N. Gilbert. (215 Liberal Arts)

CLARENCE VAN EPPS, B. S., 1894, Iowa State College; M. D., 1897, Iowa; M. D., 1898, Pennsylvania.
Instructor in Theory and Practice, 1904. 430 Jefferson St.

FREDERICK P. LORD, B. A., 1898; M. D., 1903, Dartsmouth.
Demonstrator of Anatomy, 1904.
121 E. Iowa Ave. (Hall of Anatomy)

WILLIAM EVERETT SPENCE, D. D. S., 1902, Iowa.
Demonstrator in Prosthetic Dentistry, 1904.
502 Iowa Ave. (Hall of Dentistry)

WILLIAM E. BECK, B, S., 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900
518 South Clinton St. (115 Liberal Arts)

FREDERICK WILLIAM BAILEY, B. S., 1901; M. S., 1904, Iowa.
Assistant Instructor in Ophthalmology, 1901.
220 Davenport St.

VALBORG KASTMAN, B. A., 1904, Iowa.
Assistant Instructor in Physical Training, 1902.
4 Jefferson St. (Close Hall)

MARY SLEIGHT EVERTS.
Assistant Instructor in Public Speaking and Acting Dean of Women, 1901. N. Linn St. (117 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896, Penn College; M. A., 1902, Iowa.
Assistant Instructor in English, 1902.
4 E. Jefferson St. (226 Liberal Arts)

RUDOLF ERNST KLEINSORGE.
Assistant Instructor in Physiology, 1903. 425 Iowa Ave.

HERTHA LOUISE VOSS, B. PH., 1904. Iowa.
Assistant Instructor in French, 1904.
20 E. Market St. (6 Liberal Arts)

EDWIN E. HOBBY, B. S., 1898, Iowa; M. D., 1904, Bellevue Hospital Medical College.
Assistant Demonstrator of Anatomy, 1904.
534 S. Johnson St. (Anatomy Hall)

HUGH STRAIGHT BUFFUM, B. A., 1901; M. A., 1902, Iowa.
Honorary Fellow in Education, 1904.

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.
Fellow in Zoology, 1902.
318 N. Dubuque St. (305 Science Hall)

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di., 1900, Iowa State Normal; B. PH., 1903, Iowa.
Fellow in Political Economy and Sociology, 1903.
220 N. Dubuque St. (205 Liberal Arts)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Fellow in Pathology, 1903.
9 1-2 S. Dubuque S. (General Laboratory)

CARL VOLNEY KENT, B. S., 1904, Iowa.
Fellow in Physics, 1903. (Hall of Physics)

DANIEL STARCH, B. A., 1903, Charles City College.
Fellow in Philosophy, 1903.
208 Fairchild St. (214 Liberal Arts)

MAY SHUCK, B. PH., 1900, Iowa.
Fellow in English, 1903. West Side

JOSEF WIEHR, B. PH., 1904, Iowa.
Fellow in German, 1903. (Liberal Arts.)

SARAH ELIZABETH CRONIN, B. S., 1903, Iowa.
Fellow in Mathematics, 1904. (Liberal Arts.)

HARRY HOLLAND FITCH, B. A., 1902, Iowa.
Fellow in Latin, 1904.

FREDERIKE BARBARA HAAN, B. A., 1904, Wisconsin.
Fellow in German, 1904.

FRED ALBERT, JR., B. PH., 1903, Iowa.
Scholar in Internal Medicine, 1903.

CHRISTIAN EMILE BALE, B. A., 1904, Luther College.
Scholar in English, 1904.

CLARENCE HENRY HANSON, B. S., 1903, Iowa.
Scholar in Physiology, 1904.

SEBERN WALDO HOCKETT, B. S., 1904, Iowa.
Scholar in Geology, 1904.

EDWIN ALEXANDER JENNER, B. S., 1903, Simpson.
Scholar in Psychology, 1904.

JOSEPH OLIVER JOHNSON, B. PH., 1904, Iowa.
Scholar in Political Science, 1904.

JUDSON FISKE LEE, B. A., 1904, Des Moines.
Scholar in Public Speaking, 1904.

BESS PEEBLES, B. PH., 1904, Upper Iowa.
Scholar in English, 1904.

LAWRENCE ALBERT QUAIFE, B. PH., 1903, Iowa College.
Scholar in Pathology and Bacteriology, 1904.

ALICE RIGBY, B. PH., 1902, Cornell College.
Scholar in English, 1904.

ELIZABETH LEWIS SHERWOOD, B. A., 1881; M. A., 1903, Iowa.
Scholar in English, 1903.

ETHEL LENORE SMITH, B. A., 1904, Penn College.
Scholar in German, 1904.

ETHELIND SWIRE, B. PH., 1904, Iowa.
Scholar in French, 1904.

FERN MARIAN WILLIAMS, B. A., 1903, Tabor College.
Scholar in Greek, 1904.

CLARA LOUISE ABERNETHY, B. A., 1902, Iowa.
Assistant Registrar, 1902.
21. N. Dubuque St. (108 Old Capitol)

FREDERICK ALDEN.
Interne in Homeopathic Hospital, 1905.

JOSEPH ANDERSON.
Attendant in Pathology and Bacteriology, 1904.

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist, 1900.

HELEN BASHNAGEL.
Clerk in the College of Dentistry, 1896.
424 Market St. (13 Dental Hall)

EDWARD ELLSWORTH BLYTHE, B. PH., 1900; M. D., 1904, Iowa.
Assistant in Histology, 1901.
21 1-2 S. Dubuque St. (General Lab. Hall)

GARRETT BOS.
Laboratory Assistant in Physics and Mechanics, 1904.

JOHN WILLIAM CARVILLE.
Assistant in Geology, 1892. 610 E. Jefferson St.

LUCY M. CAVANAGH, B. S., 1896, Iowa.
Assistant in Botany, 1902.

ALICE BRADSTREET CHASE.
Executive Clerk, 1895. 24 N. Clinton St. (108 Old Capitol)

JENS CHRISTIANSEN, M. D., 1901, Iowa State Normal.
Assistant in Pathology and Bacteriology, 1904.

CARL GEORGE CLARK.
Interne Homeopathic Hospital, 1904.

HERBERT MORGAN DECKER, D. D. S., 1898, Iowa.
Assistant in Pathology and Bacteriology, 1904.

EULA CARLOTTA DE VOLL.
Assistant in the Registrar's Office, 1904.
629 N. Dubuque St. (108 Old Capitol)

FRED COLLINS DRAKE, B. PH., 1901; LL. B., 1903, Iowa.
Secretary to the President, and University Editor, 1903.
530 E. Washington St. (108 Old Capitol)

ELVA MARION DUNHAM, Graduate Nurse, 1900, Iowa.
Superintendent of the Homeopathic Hospital and of the Nurses' Training School, 1903.

LEWIS WILLIAM DUTCHER.
Assistant to the Secretary of the Board of Regents, 1903.
208 Fairchild St. (101 Old Capitol)

GILBERT HORACE ELLSWORTH.
Superintendent of Construction, Maintenance and Grounds, 1902. 1035 Burlington St. (101 Old Capitol)

MARION FIDLAR, Graduate Nurse, St. Luke's Hospital, Chicago.
Head Nurse, University Hospital, 1904.

HENRY VALENTINE FARR, B. S., 1903, Penn College.
Storekeeper in Chemistry, 1904.

WALTER HENRY FOX.
Senior Assistant Demonstrator in Anatomy, 1903.

ROBERT LINCOLN GLASE.
Prosecutor in Anatomy, 1904.

RAY EDWIN HALL.
Laboratory Assistant in Materia Medica, 1904.

PAUL J. HANZLIK, PH. G., 1902, Iowa.
Attendant in Chemistry, 1905.

HARRY MORGAN IVINS, B. S., 1904, Iowa.
Laboratory Assistant in Animal Biology, 1904.

LEORA JOHNSON, M. D., 1890, Iowa.
Clinical Assistant to the Chair of Surgery, College of Homeopathic Medicine, 1890.
22 N. Clinton St. (Homeopathic Hospital,

CLARISSA J. JOY.
Storekeeper in the College of Dentistry, 1902.
513 N. Linn St. (Hall of Dentistry)

CHARLES SCHUTZ KRAUSE, B. S., 1902; M. S., 1904; M. D., 1904, Iowa.
House Physician, University Hospital, 1903.

JENNIE OLIVE LOIZEAUX, B. PH., 1903, Iowa.
Cashier, University Hospital, 1904.

THOMAS AUGUSTINE MAHER.
Interne, University Hospital, 1904.

WILLIAM JUDD MCCHESNEY.
Secretary to the Board of Regents, 1902.

DIEDRICH JANSSEN MEENTS, B. S., Steinman College.
Assistant in Pathology and Bacteriology, 1904.

FRANK ROLAND MOLSBERRY.
Band Master, 1903.

HERBERT LOVELACE MOON.
Undergraduate Assistant in Animal Biology, 1904.

JAMES MOORHEAD, M. D., 1893, Iowa.
Assistant to Theory and Practice, College of Homeopathic Medicine, 1903. (Homeopathic Hospital)

EUGENE FRED MUELLER, B. A., 1903, Iowa.
Assistant in Physics, 1905.

JOHN G. MUELLER, M. D., 1895, Iowa.
Clinical Assistant to the Chair of Gynecology, College of Medicine, 1901.
417 E. Bloomington St. (University Hospital)

ROBERT BAXTER PIKE.
Clerk in Secretary's Office, 1904.

HARLOW MUNSON PRATT, B. S., 1903, Iowa.
Armorer, 1904.

SARAH RUTH QUIGLEY, B. PH., 1902, Iowa.
Assistant in English, 1902.

CARL ERNEST RICHARDS.
Assistant in Pathology and Bacteriology, 1904.

CHARLES PLUME SCHENCK, B. S., 1904, Iowa.
Laboratory Assistant in Pathology and Bacteriology, 1904.

ELMER ANTHONY SCHRADER, D. D. S., 1901, Iowa.
Clinical Demonstrator of Prosthetic Dentistry, 1904.

FRED JAY SEAVER, B. S., 1902, Morningside College.
Assistant in Botany, 1902. 321 Church St. (Science Hall)

SAMUEL EDWIN SHAFF.
Assistant in Shop Practice, Civil Engineering, 1902.
126 W. Jefferson St. (Engineering Hall)

ADELBERT W. STARBUCK, D. D. S., 1898, Iowa.
Assistant in Histology, College of Medicine, 1900.
(General Laboratory)

LOVELL SWISHER.
Treasurer of the Board of Regents.

EVAHN RUSSELL WALKER, B. S., 1900, Iowa State College.
Assistant in Physiology, 1904.

BERTHA WILKINSON, Graduate Nurse, 1898, St. Luke's Hospital, Chicago.
Principal Nurses' Training School, University Hospital, 1904.
(University Hospital)

JOHN WEST WILSON, M. D., 1894, Iowa.
Assistant to Chair of Surgery, College of Homeopathic Medicine, 1904.

WILLIAM HENRY WOLTMAN, M. D., 1903, Iowa.
Assistant in Materia Medica, College of Homeopathic Medicine, 1904. 111 1-2 E. Washington St.

WILLIAM CURTIS WOLVERTON.
Tutor in Medical Latin, 1903. 407 S. Capitol St.

ARTHUR DANIEL WOODS.
Junior Assistant Demonstrator in Anatomy, 1903.
(Hall of Anatomy)

MALCOLM GLENN WYER, B. A., 1899; M. L., 1901, Minnesota; B. L. S., 1903, New York State Library School.
Acting Librarian in Charge, 1904.
115 Fairchild St. (303 Liberal Arts)

MERTON LEROY FERSON, B. PH., 1900; LL. B., 1901, Iowa.
Law Librarian, 1902. 223 Bloomington St. (Law Library)

LAVINIA STEELE, B. L. S., 1902, Illinois.
Reference Assistant, 1904. 122 N. Capitol St. (Library)

DELIA C. SANFORD, B. L. S., 1900, Illinois.
Cataloguer, 1904. 122 N. Capitol St. (306 Liberal Arts)

LOUISE HOWELL, B. A. in L. S., 1904, Illinois.
Assistant Cataloguer, 1904.
122 N. Capitol St. (306 Liberal Arts)

JOANNA GLEED STRANGE.
Assistant in the Library, 1901.
(306 Liberal Arts)

NYLE WILLIAM JONES.
Assistant in the Library 1902.
110 N. Clinton St. (303 Liberal Arts)

HAROLD MILLS ALGYER.
Assistant in the Law Library, 1904. (Law Library)

WALTER LAWSON SIMS.
Assistant in the Law Library, 1904. (Law Library)

CLAUDE DELESTINE WALROD, B. A., 1895, Iowa.
Assistant in the Law Library, 1905. (Law Library)

FLETCHER FELIX WYCKOFF.
Assistant in the Law Library, 1904.

GENERAL INFORMATION

ORGANIZATION

The State University of Iowa is an integral part of the public school system of the state. As required by law, the work of the University is based upon the preparation afforded by the duly accredited high schools of the state, whose graduates are admitted to the undergraduate and professional courses upon presentation of the proper certificates. A sense of this vital connection with the public schools determines, in a large measure, the requirements for admission to the Univeristy, its spirit, and its courses of study. The state through the University undertakes to furnish instruction in the various branches requisite for a liberal education in the liberal arts, law, medicine, dentistry, pharmacy, nursing, and, in applied science, the various branches of engineering. It also aims to encourage research work in all departments, to produce creative scholars, and thus do its part in the enlargement of the domain of knowledge. Thus it is the general policy of the institution to foster the higher educational interests of the State, broadly and generously interpreted.

The control of the University is intrusted to a Board of Regents, consisting of the Governor of Iowa and the Superintendent of Public Instruction *ex-officiis*, and of one member elected by the General Assembly from each of the eleven congressional districts.

INCOME OF THE UNIVERSITY

The University enjoys the proceeds of the invested funds and lands originally given by the United States. Recent General Assemblies have enlarged the general support fund of the University by permanent appropriations. The University enjoys the proceeds from a one-fifth of a mill levy for buildings alone. The liberality of these Assemblies, perhaps for the first time in its history makes it possible for

the University to anticipate reasonably adequate support and modern buildings and equipment.

GROUNDS

Plans have been made to keep and beautify the historic Old Capitol campus as the center for the enlarged grounds which are to front the river and to be connected with the athletic field on the west, and through the newly-acquired medical quadrangle, with the old park or hospital campus on the east. With fifty acres in the heart of one of the most picturesque and sanitary small cities in the United States, with possibilities of park extension across the river, the opportunities for landscape architecture equal those of the most favored seats of learning. During the coming summer the Iowa river is to be dammed just below the University grounds, making a beautiful water front and giving facilities to add all forms of water sports to the athletics of the University.

BUILDINGS

The University at present occupies eighteen buildings, beautifully situated near the business center of Iowa City. They are as follows, the order being that in which they were erected:

The Old Capitol, in which are located the administrative offices and the College of Law. This building is the old State House, the corner stone of which was laid July 4, 1840.

A temporary building for engineering has been erected upon the foundations of Old South Hall and the former medical hall. The two buildings have been connected by an enclosed hallway making large and commodious quarters for the departments of engineering and the shops.

The Hall of Physics is occupied exclusively by the laboratories and lecture rooms of the department of physics.

The Clinton Street building, No. 14 North Clinton street, formerly the homeopathic hospital, is now occupied by the department of surgery, of the College of Medicine.

The Old Armory building has been assigned to the department of electrical engineering.

In Natural Science Hall are located the four departments of biological science of the College of Liberal Arts, and also the museum of natural history.

The Hall of Chemistry and Pharmacy contains the laboratories and lecture rooms of the several departments of chemistry and pharmacy.

Close Hall, the home of the Young Men's and Young Women's Christian Associations of the University, also contains the halls of six of the forensic societies; the entire lower floor is occupied by the women's gymnasium.

Dental Hall is occupied exclusively by the College of Dentistry, and furnished with the most modern equipment, electrical and otherwise.

The Hospital of the College of Homeopathic Medicine, affords accommodations for fifty-four patients and contains a large clinical amphitheater, dispensary, administrative office, and the library of the Homeopathic Medical College.

The Hospital of the College of Medicine is provided with a large amphitheater, numerous operating rooms and offices, a dispensary, and accommodations for seventy-five patients.

Three small buildings furnish accommodation for the standard weights and measures of the state; a student's astronomical observatory, and a carpenter's shop.

The Hall of Liberal Arts, 120x260 feet on the ground, contains ninety-two rooms arranged for the respective departments of letters with office, seminar, departmental library and lecture rooms en suite. There are also an attractive drawing and rest room for women, psychological laboratories and a general lecture room. The State Historical Society and the general university library are temporarily lodged in this handsome Bedford stone and fireproof building. The style of the building harmonizes with the Old Capitol.

The Hall of Anatomy is the first building completed in the new medical quadrangle. It contains dissecting rooms with the most modern accommodations for 20 tables, an amphitheater with seating capacity of two hundred and twenty-five persons, offices, reading rooms, and a preserving room. It is a handsome hexagonal, fire-proof building of

Bedford stone with granite foundations. The interior finish is designed to make it aseptic.

The second building in the new medical quadrangle contains the general and clinical laboratories of bacteriology, pathology, histology, physiology, and pharmacology. It is constructed in the same manner and in similar style to its companion building just described.

The University has just completed a large armory and athletic pavilion for the use of the men of the University. The building is 84 by 162 feet in dimension and three stories in height. In addition to thorough equipment in the way of gymnasium apparatus the building contains a twelve-lap, concave, canvas-lined running track. The building is situated just outside the athletic field which contains a football gridiron, a baseball diamond and a splendid two-fifths mile cinder track.

The foundations have already been laid for a fire-proof stone building, the counterpart of the Hall of Liberal Arts. This building will ultimately be given wholly to the museum and departments of natural history, but will accommodate temporarily the general library and furnish a general assembly hall to seat 1,800 people.

The last legislature provided funds for a new Engineering Hall, plans for which have been made, and a portion of the building will be under way during the summer of 1905. The portion to be immediately completed will occupy a plot about 65 feet by 200 feet on the corner of Capitol and Washington streets. The building will be three stories on the Capitol street front and four stories on the western end. Recitation, lecture, drawing, and study rooms, with separate study space for each student, together with an engineering materials laboratory, will be provided in the portion to be built this year. This will leave the temporary building now used by the engineering department for the enlargement of the shops.

THE LIBRARIES

There are accessible to students the general university library and a series of valuable departmental libraries, also the State Historical Society library which is kept in con-

junction with the general library at the University; the library of the College of Law, and the libraries of the other professional colleges, as well as the Public Library of Iowa City. This makes available about 110,000 well selected volumes in diverse fields of knowledge. A feature is made of having an extended list of current periodicals.

The university library contains about 57,000 volumes, not including a large number of pamphlets, and consists of the libraries of the colleges of Liberal Arts, Law, Medicine, Homeopathic Medicine, Dentistry, and Pharmacy. These libraries are shelved in their several college buildings where they are accessible to any one desiring to use them.

The library includes:

1. The Talbot Library, a large and valuable collection of works pertaining chiefly to natural history, explorations, voyages and travels.

2. The Americana Library of several hundred volumes, many rare and of considerable value, the greater number purchased with funds subscribed by the Alumni of the University, others contributed by friends.

3. A fine collection of philological periodicals given by the German citizens of the state.

4. The books contained in the official list of library books for school districts of Iowa recommended by the state board of educational examiners, and maintained for the use of the teachers of the state.

This library being a depository for the Government documents the larger part of the "sheep bound reserve" set of Government publications are located here and the set is being completed as fast as possible.

The University receives by purchase and exchange over 500 periodicals and scientific society transactions.

Members of the faculties and other officers of the University may draw books from the library. To all other persons it is a reference library, and as such is open to anyone.

The general reading room occupies the south end of the third floor of the Hall of Liberal Arts, and is open daily, except Sunday and legal holidays, from 8:00 A. M. to 10 P. M.

The library of the College of Law, numbering about 10,000 volumes, occupies the former Senate chamber on the

second floor of the Old Capitol. It contains a full series of the reports of the supreme court of the United States and of the courts of last resort of forty-five states, including all the series of reports most frequently referred to; also the American Decisions; American Reports; American State Reports; Lawyer's Reports Annotated; English Ruling Cases; a collection of English Reports, which, with additions lately made, is almost complete; full series of the Reporter System; and a large collection of the latest and best law text-books.

A valuable collection of 1,200 volumes relating principally to the civil law and the history of the common law, presented to the University by Mrs. Hammond, widow of William G. Hammond, LL. D., the first chancellor of the College of Law, is kept in the law library as a separate collection for the use of the students of the college and others interested in such subjects. These books are kept in special cases, under the charge of the law librarian, and are accessible upon request.

The reading room of the law library is open from 8:00 A. M. to 5:30 P. M., and from 7:00 to 9:00 P. M. of each day except Sunday.

The library of the College of Medicine, which was destroyed by fire in 1900, has been replaced, and comprises the latest editions of standard works, as well as many volumes of periodicals relating to the various branches of medical science.

The College of Homeopathic Medicine possesses a valuable professional library, located in the Homeopathic hospital.

The department libraries are rich in literature of interest to the advanced student.

THE LIBRARY OF THE STATE HISTORICAL SOCIETY OF IOWA

The library of the State Historical Society, located in the Hall of Liberal Arts of the University, contains about 30,000 volumes and is open for the use of University students. This valuable collection of historical documents is rapidly growing. The society issues its own publications

regularly and has on its exchange list the publications of similar societies in the United States as well as a large number of foreign publications and the publications of leading universities both at home and abroad. The society publishes quarterly a journal devoted to critical studies of the history and politics of Iowa.

MATERIAL EQUIPMENT

LABORATORIES

THE PSYCHOLOGICAL LABORATORY

The new psychological laboratory, completed in September, 1901, occupies a part of the second floor of the Hall of Liberal Arts. It includes, in common with the department of philosophy, the following rooms: Two lecture rooms, a library and seminary room, an apparatus room, a workshop, an observing room, a recording room, three general laboratory rooms, and two offices. Owing to the present crowded condition of the Hall of Liberal Arts, resulting from the recent fires, two of the above rooms are temporarily occupied by another department.

The rooms are large and well lighted, supplied with gas and electric light, and have special provisions for darkening. They are heated and ventilated by a system of indirect radiation, and supplied with water where needed. The rooms in the suite are connected by a system of concealed wires radiating from a central switchboard which has connections with a battery closet and the power house. Battery currents and the direct dynamo current may be drawn from several terminals in each room and any two or more rooms may be connected for experimental purposes by means of this system.

The observing room is practically sound-proof, light-proof, and jar-proof. It is a room 12x14, with an anteroom 4x14, built inside of another room which rests upon a special foundation and has no solid contact with any other part of the building. It is lined, carpeted, and furnished in black, and is supplied with gas, electric light, switchboard connections, and a special heating and ventilating system. The main room is entered through four tight-fitting doors and when these are closed all communication with the outside takes place through telephone and electric recording instruments. In the typical experiments the

observer is left alone in this room where the conditions of the experiment can be controlled, while the experimenter manipulates the instruments in and from the recording room.

The workshop is provided with bench, lathe, motor, tools, material for apparatus, drawing materials, mimeograph, etc.

The library and seminary room contains the entire department library, including the subjects of philosophy, psychology, logic, ethics, and aesthetics, and is open all day for the use of students.

The laboratory is equipped with a superior collection of apparatus, illustrative material, supplies, and conveniences for use in instruction and investigation in psychology. The general equipment of the laboratory is designed to fit the plan of instruction, according to which the student in psychology may, the first year, attend a course of lectures in which a rich collection of illustrative material is used and experiments are performed before the class by the instructor. The second year, the student may himself perform a series of model experiments, and for the third and following years he may engage in the investigation of original problems. Accordingly the equipment falls into three classes: (1) apparatus, charts, and other material for use in class demonstration for the first year in general psychology, (2) a complete set of apparatus for standard exercises which constitute the laboratory course for the second year, and (3) apparatus and the varied means employed in the research work, for special tests, and for advanced demonstration experiments.

LABORATORIES OF ANIMAL BIOLOGY

The laboratories for animal biology occupy the west half of the first floor of the Natural Science Hall, together with a portion of the basement. They are supplied with water and gas throughout, and are lighted by twenty windows.

The laboratory for the elementary courses receives light from the north. It is furnished with heavy oak, slate-topped tables, particularly adapted to the anatomical and micro-

scopical requirements of the work. The tables will accommodate thirty-two students at one time.

The equipment of this laboratory includes thirty-two compound microscopes, as many dissecting microscopes, the requisite accessory optical apparatus, a series of over twelve thousand microscopical slides, a large number of anatomical preparations, charts, and models, physiological equipment, and the numerous pieces of minor apparatus, glassware, etc., incident to general biological work.

The laboratory for the several advanced courses is lighted from the west and south. It is furnished with tables and reagent racks designed to meet the special requirements of the work pursued here. A smaller room opening from the main one supplies the conditions desired for apparatus of constant temperature. The equipment of this laboratory embraces special compound and dissecting microscopes, sliding microtomes of approved pattern, three Minot automatic microtomes for serial sectioning, a large Lillie water bath for paraffin imbedding, a laboratory incubator for work in embryology, a warm chamber of ample size, a complete stock of biological reagents, sets of bottles for each student, a large assortment of glassware, a suspended pantograph, a series of over four hundred charts, and ninety-three wax models by Ziegler illustrating the embryology of Amphioxus, the Trout, the Frog, and the Chick.

Opening from the main laboratories are smaller rooms available for those pursuing special lines of investigation. The basement laboratory is utilized for aquaria, anatomical tanks, animal cages, and appliances for various lines of special work.

A reference library in English, French, and German is kept in the laboratories, and is accessible at all times during the working hours. A subject index on the card catalogue system renders the literature more readily available.

ZOOLOGICAL LABORATORY

This laboratory has been newly equipped and is now able to furnish much better facilities than ever before. It

is situated on the second floor of Natural Science Hall. The main items of the equipment are the following:

1. New laboratory tables designed especially for this work. They have glazed tops of alternating black and white squares to give suitable background for dissecting or examining delicate objects in glass dishes, and drawers for the accommodation of the dissecting tools, lenses, etc. The tables are provided with Welsbach burners in sufficient number to furnish the best of light for either dissecting or microscopic work, and will accommodate twenty-seven students.

2. A high grade dissecting microscope, provided with a jointed arm and two double achromatic lenses, for each student. On the theory that the work in zoology can be done better with a good dissecting equipment than by relying too much on the compound microscope, this laboratory has been provided with the best dissecting microscopes and lenses that could be purchased.

3. Compound microscopes of good quality in sufficient numbers to supply all students in introductory courses are at present available and high grade instruments are furnished to those intending to pursue advanced or research work in zoology.

4. An Imperial Sciopticon for use in illustrating lectures. This instrument is provided with electric light, and microscope attachment.

5. A photographic camera with the usual accessories for photographic and lantern slide work, together with a convenient dark room.

6. A set of ordinary dissecting tools and a Coddington lens for each student, together with a very complete equipment in the way of dissecting pans and glassware, such as watch glasses, petrie dishes, stender dishes, embryo dishes, slides, covers, etc.

7. The very extensive zoological collections in the museum of natural history are at the disposal of students in this department, furnishing abundant material in many groups for advanced systematic work.

In this connection should be mentioned the departmental library of zoological works, including a complete set of the *Annals and Magazine of Natural History*, most of the "Challenger" Reports, and works of reference of various kinds covering the field of zoology in a general way, and admitting of special treatment of several groups which are particularly well represented in the museum.

BOTANICAL LABORATORY

The laboratory is located on the second floor of Natural Science Hall, and is in direct communication with the herbarium room. It is supplied with heavy oak, slate-topped tables, furnished with drawers and cases for the instruments used in microscopic work, and is arranged to accommodate thirty students at one time. It is equipped with new microscopes and with all the facilities for advanced histological work.

1. Connected with the main laboratory are private laboratories for students pursuing special lines of investigation. Two of these are furnished with special microscopes, a photomicrographic camera, and apparatus for investigation in vegetable physiology.

2. A fine stereopticon with hundreds of slides furnishes the material basis for general illustration, and for Monday evening lectures. The laboratories are well lighted and in every way adapted to satisfactory work.

3. The herbarium affords a very large amount of material suitably preserved for various lines of investigation in histology, embryology, as well as in all departments of taxonomic research.

4. A fully equipped dark-room is at the disposal of students whose work in the department requires photographic illustration.

5. All the more important works of reference in botanical science are found as a working library in the laboratory.

LABORATORIES OF GEOLOGY, PETROLOGY, AND PALEONTOLOGY

The equipment of the department embraces:

1. The laboratory collections, including;
   a. An extensive collection of American and European fossils, illustrating the history and development of life from the earliest geologic ages to the present time.
   b. Several hundred mineral specimens selected and arranged to illustrate the economic geological resources of the United States, including:
      (1). The metalliferous products, such as the various ores of gold, silver, copper, iron, etc., and their modes of occurrence.
      (2). The non-metalliferous products, such as coal, building materials, gypsum, etc.
   c. A collection of rock-making minerals.
   d. A collection of rock specimens, illustrating the mineralogical composition, structure, mode of occurrence, and classification of rocks.
   e. A large number of sections of rocks, minerals, and fossils for microscopic study in connection with the work in petrology and paleontology.

2. Globes; physical maps of the continents and oceans; a series of topographical and geological maps and charts, published by the United States Geological Survey, the various state surveys, and the surveys of foreign countries, geological and physiographical models, and relief maps; more than two thousand lantern slides, covering every phase of geology which can be illustrated in this way; several hundred photographs illustrating physiographic and geologic phenomena.

3. A lithological lathe for making microscopic and other sections of rocks, minerals, and fossils.

4. A number of petrographical microscopes of the

most approved design; two Joly balances for specific gravity determinations; Mohs's scale of hardness, etc.

5. A complete photographic outfit, including a large photomicrographic camera.

6. A large series of negatives from which the students make prints to illustrate their permanent notebooks.

7. Equipment for determinative mineralogy.

8. A collection of crystal models, natural crystals, and crystal sections to illustrate the work of crystallography.

9. The library of the department contains over 1,000 bound volumes and about 1,000 catalogued pamphlets. In addition to the standard works on geology and related subjects, the library contains the publications of the United States Geological Survey, the reports of the various state surveys, and a number of geological publications of foreign governments.

10. Geological phenomena illustrated within easy reach of Iowa City.

The surrounding neighborhood affords many instructive examples of phenomena of interest to the student of geology. At the same time it offers unexcelled opportunities for field work in mapping, making geological sections, tracing strata from one exposure to another, and making paleontological collections. The Pleistocene deposits are of especial interest.

The boulders of the drift afford an opportunity for a study of several types of crystalline rocks. The available material is not only sufficient to illustrate the ordinary undergraduate courses in geology, but advanced students will find enough to occupy their time with profit for a number of years.

THE LABORATORIES OF THE COLLEGES OF MEDICINE

The laboratories of the Colleges of Medicine are located in the new laboratory building and are provided with the most modern and adequate equipment.

The physiological laboratory occupies most of the first floor of the building. The main room is well filled with tables,—each table being supplied with gas and electrical apparatus, revolving drums, muscle levers, and other ma-

terials necessary for practical physiology. Special rooms are provided for students doing research or advanced work.

The histology and embryology laboratories are upon the second floor of the new hall and the rooms are arranged with special reference to the requirements of microscopical work. Besides the general laboratories for general class work a special laboratory is well furnished and equipped for advance research work of all kinds.

The pathology and bacteriology laboratories occupy the rooms on the third floor of this building and are provided with rooms and equipment adequate for their needs. The rooms are all well lighted and furnished with microscopes and other apparatus of the most modern types. By reason of special association with the pathological institutes of Vienna, Leipzig, and Munich, the department has come into possession of a most complete and varied collection of diseased tissues and organs for the study of general and special pathological histology.

The laboratory of experimental pharmacology, otology and rhinology have rooms prepared for them in this hall and are well supplied with apparatus.

The anatomical laboratory occupies the third floor of the new hall of anatomy and is fitted and equipped throughout with materials and instruments best adapted for anatomical work.

THE CHEMICAL LABORATORIES

A three-story brick building, 105x150 feet on each floor, is devoted entirely to the uses of the departments of chemistry and pharmacy. The lecture hall is built in amphitheatre form and will accommodate nearly two hundred students, every one of whom can clearly see the lecture table and any experiment that may be performed there, even from the most distant part of the room. There is also a special lecture room for students in pharmacy. The building contains a general laboratory 100 feet in length by 27 feet in minimum breadth for the use of students in the College of Liberal Arts, and two others nearly as large for those in the Colleges of Medicine and Pharmacy; also a large laboratory for advanced students, a laboratory of

determinative mineralogy, and several private laboratories which may be fitted up for various special lines of research.

There are also reading rooms containing the libraries of general and pharmaceutical chemistry, spectroscope and balance rooms, engine and dynamo rooms, dark rooms for photography, store rooms, and offices.

A storage battery and dynamo in connection with the gas engine furnish electricity to the various laboratories for electrolysis and other uses. Special facilities in the way of apparatus are provided for the study of physical chemistry.

It is intended to greatly increase the present laboratory equipment for the study of metallurgy in the immediate future by the introduction of experimental plants for ore separation and concentration, and of electric furnaces and refining vats, which will make possible the study of the processes involved under actual working conditions.

THE PHYSICAL LABORATORY

The department of physics occupies the entire three stories of the Hall of Physics, a plain rectangular structure 60 by 90 feet.

The large north room of the basement is equipped with a gas engine and dynamos and other apparatus, with a switchboard wired to all parts of the building. Another basement room is given to the storage battery.

The basement also contains a shop furnished with electric power and equipped with wood and metal working lathes, drill press, cabinet maker's bench and necessary tools. This shop furnishes an opportunity for the making of new and the repair of old apparatus.

On the floor above are the offices, and several special laboratories for optics, electricity, heat, etc. One room contains the special physical library, and serves also as reading and seminary room.

The second floor, formerly occupied by the general library of the University, has been remodeled and adapted to the use of this department. A lecture room with a seating capacity of 175 has been fitted up with conveniences for physical demonstrations, such as facilities for darkening

the room, and for projection by sunlight and various sources of artificial light. Connected with the lecture room is a commodious apparatus and preparation room. A recitation room, a large, well lighted elementary laboratory, and a photographic laboratory occupy the remainder of the space on this floor.

The former library gallery is used as a room for advanced students in the study of special problems and in which they may be free from outside disturbance.

The laboratory is well supplied with lecture apparatus, and among the instruments of precision are many of the best and finest to be had. The equipment is especially full in mechanics, optics, and electricity. Most of the apparatus has been purchased in recent years and has been selected with great care, and some has been constructed for particular uses in this laboratory.

ASTRONOMICAL OBSERVATORY

The students' astronomical observatory is conveniently located on the university campus. It is furnished with a five-inch equatorial telescope by Grubb of Dublin, having circles, driving clock, position micrometer, helioscope, and solar and stellar spectroscopes; a transit instrument by William Wuerdermann, of Washington; a prismatic sextant and artificial horizon by Pistor and Martins, of Berlin; clock; chronometer; chronograph, etc.

The lecture room equipment includes a fine astronomical globe, a planetarium, a stereopticon, and a series of several hundred lantern slides to which additions are constantly being made. Numerous charts, models and photographs furnish additional illustrative material.

The mathematical and astronomical library comprises over twelve hundred volumes, including many rare and valuable works. The periodical literature devoted to these branches of science is also well represented.

ENGINEERING LABORATORIES

The engineering laboratories at present include a hydraulic laboratory, a laboratory for testing materials of construction, and an electrical laboratory. In addition to

this the light, power and heating plant of the University is available for experimental purposes in the courses in steam engineering, and the heating and ventilating systems for courses in heating and ventilating. Until the completion of the new engineering building the hydraulic laboratory and the laboratory for testing materials is temporarily housed with the machine and wood-working shop tools in the basement of the Old South Hall. The electrical laboratory is housed in the Old Armory building which will be entirely devoted to the department of electricity within the coming year.

In the laboratory for testing materials there is an autographic torsion machine, a Riehle automatic standard testing machine of 100,000 pounds capacity, a standard abrasion cylinder for testing paving brick, a Fairbanks automatic briquette testing machine of 1,000 pounds capacity, and a full equipment for preparing specimens of wood, metal, cement and concrete.

In the hydraulic laboratory is a Worthington duplex fire pump of 500 gallons per minute capacity, connected with the Iowa City water supply and a high pressure main leading to hydrants on the campus. This pump may be used for experimental purposes, giving large volumes under high pressures. There are also tanks, standard orifices, weirs, water meters of various forms, and a Price acoustic current meter.

The civil engineering department is amply provided with field instruments for practice in the different branches of plane surveying. This equipment, which is mostly new and from the best makers, includes compasses, levels, transits, plane table, solar instruments, and all minor tools necessary for land, topographical and railroad surveying.

For shop practice there is a sufficient equipment of wood and metal working tools and machinery which will be added to as needed.

The electrical laboratory is supplied with 110 and 220 volt continuous current from the university light and power plant. To a considerable equipment of current measuring instruments, voltmeters, ammeters, galvanometers, etc., has been added during the past year between $3,000

and $4,000 worth of electrical apparatus, consisting of motors, generators, power brakes, calibrating sets, etc.

Through the liberality of Mr. and Mrs. Euclid Sanders, of Iowa City, the water power known as the Terrill Mill Dam, or mill privilege, has been granted to the University, to be used primarily in the development of the School of Applied Science. The power thus available will range from 150 to 300 continuous horse power, depending upon the stage of the river. It is proposed to erect a new dam and power plant which shall furnish power and light to the university buildings, and serve at the same time as a hydraulic laboratory. It is expected that the dam and power plant may be built about a mile below the old dam, near the southern limit of the university property, thus bringing it within easy access of the other power plants and laboratories, and securing a fine water front to the west of the campus. The available power will also be materially increased. Turbines of different sizes will be installed and connected to generators for the development of power on a commercial scale, and for practical experimentation. A canal will be constructed for experiments with broad crested weirs and meter measurements.

NATURAL HISTORY COLLECTIONS.

GEOLOGICAL COLLECTIONS

1. A large series of building stones, fossils, earths, etc., collected chiefly in the prosecution of the state geological surveys between the years 1856 and 1870. These collections are constantly increasing by contributions from various sources.

2. The Calvin collection of American and European fossils.

3. Mineralogical collections embracing the metalliferous, non-metalliferous, and rock making minerals.

4. The petrological collection includes several hundred rock specimens illustrating the various types of igneous and sedimentary rocks, their mineralogical composition and structural features.

5. A collection of cycads from Mesozoic sandstone in the Black Hills.

6. Recent extensive collections illustrating the cretaceous faunas and economic geology of the Black Hills.

7. A collection illustrating general economic geology.

A beautifully preserved skeleton of a mosasaur (*Platecarpus*) has lately been added to the geological collections through the generosity of the Davenport Alumni Association.

During the year additions have been made to the collections both by purchase and gift, as well as by the efforts of the members of the department.

HERBARIUM

The herbarium is located in two rooms on the second floor of the Hall of Science. It contains:

1. A large collection of myxomycetes from all parts of the world, but particularly rich in North American forms.

2. A very large and constantly increasing collection of fungi, both parasitic and saprophytic, from all parts of North and Central America.

3. A collection of lichens, representing most of the species of the United States.

4. An increasing collection of mosses and liverworts, chiefly North American, but containing representatives from all parts of the world.

5. A large collection of ferns and related plants from both hemispheres, including an especially complete series from tropical America.

6. A collection of many thousand flowering plants, representing very fully the flora of North America, and especially rich in Central America and European forms. The number of plants in the herbarium exceeds 200,000.

7. A collection of seeds and dry fruits, including cones, representing the flora of North America chiefly but containing also much material from the tropics.

8. A collection of the principal woods of the United States.

9. A collection of economic plant products, including plant fibers, *materia medica*, etc.

10. A very extensive collection of Iowa plants, including all groups represented in the state. These are separate

from the general herbarium, and offer an excellent opportunity to students who desire to study the state flora.

11. A large collection of fossil leaves, etc., not now displayed for lack of room.

The herbarium collections, thanks to friends and collectors in various parts of the world, are steadily increasing in extent and value. It is hoped that private collectors will hereafter as heretofore find the University a proper place for the deposit and care of collections of plants.

Botanical field work has been conducted by representatives in the department in various parts of the state and country. During the past year work has again been directed to the collection of the State flora chiefly, with special reference to matters of distribution. Excursions have also been made to New Mexico and Texas, and much valuable material from these regions was secured. Special thanks for herbarium material are due to Georgia Ryerson, Lucy A. Cavanaugh, Jessie Hastings, Margaret Sleder, E. E. Wainwright, Mrs. Patterson, Leslie Reiter, C. M. Hobby, F. F. French, Emil Boerner, Fred Irish, P. Sydow, M. A. Mathis, O. M. Oieson, B. S. White, F. M. Witter, Mary Griffith, F. J. Seaver, and St. Louis Exposition exhibitors from Venezuela, Argentine Republic, Ceylon, New South Wales, Nicaragua, Louisiana, Oregon, Egypt.

MUSEUM OF NATURAL HISTORY

The museum of natural history has attained a rank second to none in the universities of the West and is daily becoming more valuable through donations of material by friends of the University.

By the generosity of the collector the Hornaday collection of mammals and birds has become the property of the University. This collection contains many rare forms of mammals and birds, and is particularly rich in typical exotic forms from India and Australia.

Mr. D. H. Talbot, of Sioux City, has donated to the University his extensive collection of natural history specimens and minerals. This collection contains many thou-

sand specimens, being especially rich in mammals, birds, and anatomical preparations.

During the last fifteen years expeditions for zoological explorations in the interest of the University have visited the following regions: Bahama Islands, Bay of Fundy, Rocky Mountain region, Pacific coast, Alaska, mountains of Tennessee, the Winnipeg country, Lake Athabasca, Great Slave Lake, the Arctic coast, Siberia, Cuba, Florida Keys, Atlantic coast, British West Indies, the Bay of Naples, and the Hawaiian Islands.

Partly through purchase, but more largely through donation, important additions have been made to the museum in the way of material secured from the Louisiana Purchase Exposition at St. Louis. These have come mainly through the commissions representing the Philippines, Ceylon, East Indies, Nicaragua, Honduras, Argentine Republic, Egypt, and Venezuela.

More than half of the natural history collection is included in the *reserve series*, which has been arranged and labeled with the intention of making the material of the utmost practical use to students of natural history.

A library of reference for the use of students of zoology is placed on the museum floor, and a free use of all the material in the various collections is encouraged, for which purpose a cheerful and convenient study room has been provided for the use of students and specialists.

ZOOLOGICAL COLLECTIONS

1. MAMMALS—A large series of mounted specimens is now on exhibition, the great majority being rare and valuable foreign species, including a series of marsupials which surpasses anything of the kind west of the Alleghanies.

Besides the Hornaday collection, the museum contains a large number of native mammals, about forty specimens being from the Pacific coast. A good series of the larger mammals of North America has been secured through the kindness of Mr. D. H. Talbot, and the efforts of the late Dr. Frank Russell, who returned from the far north with an exceptionally fine series of the larger mammals of that region, including five good specimens of the musk ox.

2. BIRDS—The ornithological material in the museum now embraces about 11,000 specimens, about 1,000 of which are exhibited in the mounted series, the remainder being included in the study series for the use of students and specialists.

Besides a large collection of native birds, containing nearly all the species found in Iowa, the following collections are noteworthy:

The Hornaday collection of birds, containing one hundred and twenty-five specimens, nearly all of which are exotics, and many, such as the ostrich and the emu, of great value.

The Bond collection of birds of Wyoming, donated, together with a large collection of Iowa birds, by Mr. Frank Bond of Cheyenne, Wyoming.

The Harrison collection of British game birds and birds of prey, a large and valuable series, donated by John Harrison, Esq., of England.

The Talbot collection of American birds, embracing thousands of specimens, mostly from the Mississippi valley.

A collection of 500 birds from the N. W. Provinces of British America, made by the Curator, the late Dr. Frank Russell, and Professor A. G. Smith.

A collection of about 600 specimens of birds from the Winnipeg country, Great Slave Lake, Athabasca Lake, the Mackenzie River, and the Arctic coast, made by Dr. Frank Russell.

A small but valuable collection of birds of the Hawaiian Islands, collected by the Curator in 1902.

The curator has donated his study series of over 800 bird skins from Central America and the Bahama Islands.

A series of fifty-six specimens of birds from Ceylon was secured at the Louisiana Purchase Exposition.

3. REPTILES—The alcoholic collection of reptiles has received many important additions, among which may be mentioned a number of specimens from India, donated by Rev. A. Loughridge, and many native specimens presented by students. Ex-Regent B. F. Osborn has donated his large collection of alcoholic specimens, which consists principally of reptiles, thus nearly doubling the series of these forms.

The U. S. Bureau of Fisheries has donated to the University the series of American turtles recently exhibited at St. Louis, and a fine mounted crocodile was secured from the Philippine exhibit.

4. FISHES—Professor B. Shimek has presented the museum with his entire collection of fresh-water fishes, of which the museum now has seven hundred specimens, besides a number of marine forms.

The U. S. Bureau of Fisheries has recently donated, in addition to previous contributions, over 500 specimens of North American and Hawaiian fishes, and the Alaska Packers' association has promised a full series of specimens to illustrate the embryology of the salmon.

Mr. E. E. Watson donated a collection of marine fishes collected by himself on the coast of Maine, and Mr. Herbert Moon secured a number of specimens from Puget Sound; both during the summer of 1904.

5. INSECTS—Professor Wickham is now engaged in assorting a large series of the coleoptera and lepidoptera of North America which he has generously donated. All of the foreign coleoptera in his large collection are now the property of the museum.

6. MARINE INVERTEBRATES—A collection consisting of several thousand specimens of crustaceans, mollusks, star fishes, corals, sponges, etc., has been supplemented by a valuable series consisting of several hundred alcoholic specimens, many of which are the gift of the United States Fish Commission.

The alcoholic collection has been enlarged by marine forms collected during two expeditions to the Bahamas, Cuba, and the Florida Keyes, and thousands of specimens have been added by collections made in the Bay of Fundy by Professors Calvin and Nutting.

A carload of marine specimens was secured by the Bahama expedition in 1893. This collection contains a large number of deep-water forms, thus giving the University special advantages in the matter of marine materials for exhibition and study.

A valuable series of marine forms of the more fragile and delicate kinds, such as medusæ, sea-anemones, etc., has

been secured from the *Stazione Zoologica* at Naples, where the most superb preparations of the beautiful forms are made. These are supplemented by a number of gelatine models of medusæ, hydroids, etc., imported from Germany.

The museum is to receive one entire series of the marine forms collected by the U. S. S. "Albatross" during her Hawaiian cruise of 1902.

The most important addition to the department of marine invertebrates secured during recent years is from the Philippine exhibit at the Louisiana Purchase Exposition and consists of a particularly fine series of the superb mollusca of the East Indies, as well as many specimens of corals, sponges, etc.

The Shimek collection of land and fresh-water shells, embraces nearly all the species known to occur in Iowa, together with many exotic species.

7. OSTEOLOGICAL PREPARATIONS—A series of mounted skulls and skeletons, illustrating the osteology of typical series of vertebrates, is of the greatest value to students of comparative anatomy and zoology. The skeleton of a large whale *(Balaene biscayensis)* was secured in 1898, and a fine specimen of Stellei's sea lion in 1899.

The museum now possesses skulls or entire skeletons of typical species of nearly all families of mammalia.

ETHNOLOGICAL COLLECTIONS

There is considerable ethnological material in the museum, illustrating the handiwork of the Mound Builders, Pueblo Indians, Zunis, Moquis, Acomas, Mojaves, Crees, Dog Ribs, Metis, Kosmolliks, Piegans, Tchukchees, and Navajos, together with skulls and other remains of the ancient and modern inhabitants of America.

Mr. D. H. Talbot of Sioux City has added very largely to this department of the museum. The late Dr. Russell was active in securing ethnological specimens illustrating the life and manufactures of the Crees, of other northern tribes of Indians, and of the Esquimaux.

Mr. H. M. Griffith of the Fifty-first Iowa Volunteers brought from Luzon a collection which he has generously donated to the museum. To this will soon be added an

exceedingly valuable series of models of houses, boats, fish traps, agricultural implements, etc., secured from the Philippine exhibit at St. Louis.

A small collection illustrating the ethnology of the Hawaiian Islands was secured by the Curator in 1902.

THE EDUCATIONAL MUSEUM

A good beginning has been made in the collection of a pedagogical museum, in which it is designed to have material representing all phases of model school room instruction, and also materials representing educational practices of the past.

Anyone desiring to assist in this enterprise may send such contributions as old text books, books of collateral literature, models of work executed by pupils, including examination papers, written digests, laboratory notes, papers, drawings, work in color, designs in wood, metal, clay, or paste board, photographs, plans, and descriptions of school buildings. All objects should be sent to "The Educational Museum," and all correspondence addressed to the Professor of Education. Prompt acknowledgement will be made of all favors received.

MUSEUM OF SCULPTURE CASTS

In connection with the department of classical archeology a museum of plaster casts of Greek and Roman sculpture has been established. Full casts have been obtained of the Venus from Melos, and of four other well known statues; a representative series of reliefs illustrate the remains of the art of Phidias; the collection also includes several busts, three from statues of the Greek authors. The class graduating from the College of Liberal Arts in 1901 added to the collection a cast of the statue of Sophocles, which is preserved in the Lateran Museum at Rome; this cast is exhibited in the main corridor of the Hall of Liberal Arts.

THE PATHOLOGICAL MUSEUM

The pathological museum occupies a large room on the third floor of the laboratory building. It contains a very valuable and varied collection of preparations, preserved in

their natural colors, especially adapted for the illustration of different pathological conditions. Most of the material has been secured by making personal visits to the pathological institutes of the larger European centers; from the university clinics and autopsies and as contributions from professional friends.

Physicians are earnestly requested to send to "The Pathological Museum" any specimens of pathological anatomy. For all such favors, credit will be given by labeling the specimens with the name of the donor before placing them in the museum. Acknowledgement will also be made in the annual announcement of the College of Medicine.

ITEMS OF GENERAL INTEREST

UNIVERSITY PUBLICATIONS

LEARNED BULLETINS

Natural History Bulletin—The laboratories of natural history inaugurated in 1888 the publication of bulletins for the purpose of preserving a record of the work prosecuted along the lines of botany, geology, and zoology. Four volumes have thus far appeared in sixteen numbers, and the fifth volume is in process of publication. The numbers have a large circulation and are sent *gratis* to all correspondents from whom the University receives an equivalent, either in publications or in material. To others the price is 50 cents a number.

The Transit is an engineering journal published annually by the University. It is edited by a committee of the Engineering Society, and contains the results of original research in engineering problems by alumni and under-graduate students. Nine volumes have appeared, the first two containing two numbers each.

The Law Bulletin is published at irregular intervals and has been issued for ten years past. It is devoted to the discussion of legal topics taken up in the College of Law.

The Bulletin of Homeopathic Medical College has been published since 1895. Eight numbers have appeared.

The State University of Iowa Studies in Psychology is a biennial publication devoted to experimental psychology. It was begun in 1897. Four volumes have been published.

The State University of Iowa Studies in Sociology, Economics, Politics, and History—Volumes I and II of this series, containing respectively 296 and 150 pages, have already appeared and will be followed by others.

Provision has been made for the publication of bulletins of physical science, education, and linguistic science.

POPULAR BULLETINS

By authority of the Board of Regents separate announcements of the following University organizations will be sent gratuitously, postage paid, to all persons who apply for them: Graduate College; College of Liberal Arts; of Law; of Medicine; of Homeopathic Medicine; of Dentistry; of Pharmacy; The School of Political and Social Science and of Commerce; The School of Applied Science; the Summer Session; the Medical and Surgical Clinics; the Hospitals; and Nurses' Training Schools. In calling for announcements please state the organization or subject concerning which you desire information. The annual calendar of the University consists of the above announcements with the roster of the university staff of administration and instruction, and catalogue of all students. It is for exchange with other institutions and for the General Assembly. Otherwise it may be had only upon special request and payment of postage.

STUDENT PUBLICATIONS

The Daily Iowan—A University newspaper edited by the students.

The Hawkeye—A University annual published by the junior class.

The Middletonian—Published twice a year by the students of the College of Medicine.

LITERARY, FORENSIC AND SCIENTIFIC SOCIETIES

The literary, scientific and forensic societies maintained by the faculty and students of the University afford an important means of general culture, scientific research, and literary and forensic training, and thus form a valuable element as well as an attractive feature in University life.

Of those conducted by the faculty the Baconian has for its object discussion of scientific questions; the Graduate Club is devoted to the interests of the Graduate College; the Political Science Club discusses questions of history, politics, economics, law, education, and ethics; the Whitney Society is devoted to the field of language and literature

and the methods of teaching these subjects; the Greek Club consists of instructors and graduate students working in Greek philology; the English Club is an organization of members of the department of English and graduate students in English; the Edda is devoted to the interests of Scandinavian languages and literature; the Philosophical Club meets monthly for the discussion of problems in philosophy, psychology, logic, ethics, and æsthetics; the Cercle Francais has social gatherings for practice in colloquial French, and at its meetings papers are read in English or in French.

The Phi Beta Kappa Society elects to membership, on the basis of high scholarship, a certain number from the graduating class who have completed the classical or philosophical course.

The Sigma Xi is organized to encourage original research in science, and elects to membership from the senior class a limited number of persons who give promise of becoming investigators in some department of science.

The Engineering Society, the Hammond Law Senate, the Forum, the Middletonian Society, the Hahnemannian Society, and the Mortar and Pestle club, are organization of students in the professional colleges.

Among the purely literary societies are the Tabard, Polygon, and Ivy Lane. The Irving Institute, the Zetagathian Society, the Philomathean Society for young men; and the Hesperian Society, the Erodelphian Society, and the Octave Thanet Society for young women, hold weekly meetings for improvement in debate, oratory, writing, and declamation.

MUSICAL ORGANIZATIONS

The University has no musical department but music, both vocal and instrumental is encouraged and enjoyed by volunteer organizations among students and faculty members. There is a military band, a university orchestra, men's first and second glee clubs, a women's glee club, a mandolin club, a string quartet, vocal quartets, and class and department organizations.

PUBLIC LECTURES

The board of regents encourage the visits of distinguished scholars, specialists and men in public affairs to give addresses, under the title of "Public Lectures," open to all the University. Thus the students have the latest information as to what is current in the world of letters, science and art, and public affairs.

DEBATE AND ORATORY

The Debating League, composed of Zetagathian Society, and Irving Institute, carries on systematic training in debating through private practice and public contests. It has had public debates with the Universities of Chicago, Minnesota, and Wisconsin, and will meet with Nebraska and Minnesota this year.

The Law Debating League will meet with representatives of the University of Kansas in debate this year.

The Oratorical League is made up of the members of the Zetagathian, Irving, Philomathean, Forum, and Hammond Societies and is a member of the Northern Oratorical League, consisting of Oberlin College, Northwestern University, and the Universities of Wisconsin, Michigan, Chicago and Iowa.

CHRISTIAN ASSOCIATIONS

The Young Men's and Young Women's Christian Associations are the centers of the religious life of the University and active factors in all forms of moral and Christian work properly within the scope of such organizations. All students of good moral character are invited to membership either active or associate. Through the exertions of these associations Close Hall has been erected, mainly from funds contributed by the faculty, students, and alumni of the University, and the citizens of Iowa City. It is a spacious and convenient building, furnishing reading rooms, reception rooms, and offices for the associations. It is extensively used for the meeting of the associations, as well as for the social, literary, and class gatherings of the students.

Through the generosity of Hon. T. S. Parvin the social room of the Y. W. C. A. has been finely fitted out with furni-

ture, cabinet, and pictures as a memorial to his wife and daughter. A similar room for the Y. M. C. A. has been suitably furnished by Mr. W. D. Cannon, Jr., of Iowa City.

The associations strive to be useful to all students in every feasible way. Members meet new students at the trains, aid them in securing suitable rooms and boarding places, hold receptions at the opening of the year and on various occasions, and maintain an employment bureau. The general secretary is glad to be helpful to students on all occasions.

Churches not affiliated with the Y. M. and Y. W. C. A. have special societies for their students.

MEANS OF MORAL AND RELIGIOUS CULTURE

University assemblies with brief religious exercises are held weekly, and although the attendance is voluntary, they are crowded. Thus the purpose of cultivating the moral, religious and Social Spirit of the University is heartily recognized.

CONVOCATIONS

In addition there are occasional convocations of all the faculties and students, in which addresses by distinguished speakers are given. Upon these occasions when the entire University is convened, degrees may be conferred.

Besides the opportunities offered by the Christian Associations and the positive influence exerted by them, the churches of the city, in which the members of the faculty are a large factor, take a deep interest in the students of the University and heartily welcome them to their public services and to share in their religious activities and social life. All the prominent churches and denominations are represented, and relative to its population Iowa City deserves to be called the "city of churches."

HOSPITALS

The two hospitals connected with the University afford the best of care and treatment for students seriously ill. Provision for free beds for students is commended to the attention of generous friends of the University.

THE DEAN OF WOMEN

Special provision is made for the comfort and welfare of the young women of the University by the appointment of a dean of women, who is always ready to help or advise any woman student who may need such assistance. She will recommend boarding and lodging places so far as she is able, see that students who are ill while away from home are put under proper care, assist, as far as possible, young women who wish to earn their way through college, correspond with parents and guardians who desire to make inquiries regarding their daughters or wards, take an interest in the women's organizations and be ready to make such suggestions as may seem to her to be for the good of all.

APPROVED HOMES FOR YOUNG WOMEN

A list of homes for young women in which there are certain reasonable house rules as to hours, company, etc., may be had upon application to the dean of women. This list will be made up after careful inspection and will be revised whenever necessary.

PHYSICAL TRAINING AND ATHLETICS

The University authorities encourage physical training as acquired in the gymnasium, in military training and in the exercises and sports on the athletic field, but only in such amount and of such character as is compatible with the higher objects of the University. Intercollegiate contests are allowed and are held with the leading colleges and universities of the Middle West, but under conditions as to membership, organization of teams, and leave of absence which are determined by the athletic board.

The above named athletic board consists of five students, five members of the faculty, and one member from the alumni of the University. The general control and supervision of all athletics are in the hands of this board.

The University is a member of the "College Conference," comprising the Universities of Chicago, Illinois, Indiana, Iowa, Michigan, Minnesota, and Wisconsin, together

with the Northwestern and Purdue Universities. The athletic board requires a strict compliance with the "Conference Rules."

The athletic field contains about ten acres and is in the immediate vicinity of the University grounds. It affords room for a two-fifths mile running track, a football gridiron, and a base ball diamond entirely separate from one another.

The armory and athletic pavilion which will be used temporarily for gymnasium purposes by the men has modern apparatus and is favorably located in connection with the athletic field and military drill ground. Classes will be organized for young men and young women and expert instructors provided for each.

TUITION

The following schedule of fees became operative with the first semester of the academic year 1904-1905.

Every student, before entering any department of the University, is required to pay a matriculation fee of ten dollars. This fee is paid but once.

Tuition is free in the Graduate College. All students entering this college, who have not previously paid the matriculation fee of ten dollars, however, are required to pay said fee, excepting those to whom graduate scholarships or fellowships have been awarded.

In lieu of all laboratory and other fees, a tuition fee of ten dollars a semester, payable in advance, is required in the College of Liberal Arts.

The tuition charges in the Colleges of Law, Medicine, Homeopathic Medicine, Dentistry, and Pharmacy are twenty-five dollars a semester or fifty dollars for the year.

Every student for the Summer session of the University is required to pay a fee of five dollars and if such a student is a candidate for a degree and has not yet paid the matriculation fee he must also pay said fee.

Students entering the Library School will be required to pay a fee of ten dollars for the first, and five dollars for the second year's course.

Tuition fees will in no case be refunded.

Every student, before graduating or receiving any degree in any college of the University, is required to pay a diploma fee of ten dollars for each degree he receives.

A student carrying six hours or less of work a week in the University shall pay half the regular tuition in the college in which he is registered for the time during which he shall carry such work.

A student registered in more than one college of the University is required to pay the tuition of the college having the higher or highest rate of tuition, of the colleges in which he is registered, and is then granted the privilege of free tuition in any other college in the University.

For special examinations given at other times than those regularly scheduled by the faculty a student is required to pay a fee of one dollar for each such examination, excepting in cases where special entrance examinations are taken, when the fee shall in no case exceed two dollars.

In the College of Liberal Arts, a student who has been in attendance upon a summer session and has paid the ten dollar matriculation fee, may have his registration projected during the remainder of the collegiate year, doing work absent from Iowa City, upon the payment of five dollars. Such fees will be known as "Projected Registration Fees."

COMPARATIVE STATEMENT OF STUDENT'S EXPENSES FOR THE ACADEMIC YEAR, SEPTEMBER TO JUNE.

	LOW	AVE'AGE	LIBERAL
Matriculation Fee (first year only)----	$ 10.00	$ 10.00	$ 10.00
Tuition Fee----------	*20.00	20.00	20.00
Board (36 weeks)----------	63.00	99.00	126.00
Room, heated and lighted (one-half)..	36.00	45.00	54.00
	$ 129.00	$ 174.00	$ 210.00

*The item of tuition is here calculated for the College of Liberal Arts only. Thirty dollars should be added for the College of Law, Medicine, Homeopathic Medicine, Dentistry and Pharmacy.

The above estimates do not include such incidentals as books, clothing, laundry or membership in societies, some of which are luxuries, and all of which vary greatly with the means and habits of the individual.

The strong and capable student can reduce his expense below the lowest estimate presented in this table which may be regarded as a fair one for a student of ordinary constitution and power of self command.

SELF SUPPORT

Many students earn the whole or a part of their expenses at the University by doing such work as waiting on tables at eating houses, caring for furnaces, etc. The Y. M. C. A. and Y. W. C. A. conduct a free labor bureau, which is at the service of students. Iowa City is a town of 9,000 inhabitants, whose citizens are friendly to the University and take pleasure in affording to deserving students the opportunity to earn their necessary expenses. It rarely happens that the student who needs it fails to secure steady employment of some kind.

FREE TUITION

Tuition fees may be remitted in the College of Liberal Arts in the case of a student who brings certificates signed by three county officers to the effect that the applicant is an industrious person of good character and entitled to the relief sought on account of pecuniary need. Blank forms for such certificates may be had by addressing the President of the University.

The Board of Regents has made provision whereby all honorably discharged soldiers or sailors of the Spanish-American war, desiring to enter the College of Liberal Arts, may have the tuition fee of twenty dollars remitted. To such persons in the professional colleges there will be an annual remission of twenty-five dollars; one-half of this amount to be applied on each semester's tuition.

A. WHITNEY CARR FREE SCHOLARSHIPS

Mr. A. Whitney Carr, of Jordan, N. Y., believing that education in the higher institutions of learning should be

as free to every comer as it is in the common schools, and desiring to contribute as far as possible to this end, has generously donated what is known as "The A. Whitney Carr Free Scholarship Fund," for the creation of free scholarships for the benefit of poor and worthy young men and women who are unable to educate themselves without aid, the interest alone to be used for this purpose, the principal to be kept intact.

In accordance with the broad and generous wish of the founder, the A. Whitney Carr scholarships will be granted, so far as the fund will allow, to all applicants who are poor and worthy in respect to character and intellectual ability, without regard to sex, race, or color.

Scholarships apply to all the years of the college course; are awarded annually; and are liable to be revoked at any time if the recipients are inefficient, or found not to be worthy or justly entitled to them.

The value of each scholarship is at least $20 for each of the four years of the college course. The value will be realized by students in having their tuition and other fees free, the tuition of persons receiving awards being paid from the scholarship fund.

In case the number of scholarships awarded does not exhaust the income of the fund, holders of scholarships who are crippled or are physically unable to earn the means to pay expenses other than tuition, and are without help from parents or friends, may receive additional assistance at the discretion of those having the disposal of the fund; but this additional assistance is not to exceed $100 a year, save in cases of extreme disablement and destitution, when it may reach the amount of $150 a year.

Scholarships will not be granted to applicants addicted to the use of tobacco or intoxicating liquors.

Scholarships will be awarded by the President of the University and a committee of the faculty of the College of Liberal Arts on the basis prescribed by the founder. A candidate for assistance from this fund must have his application endorsed by the principal of the preparatory school from which he is accredited to the University, and by at

least one other person of prominence familiar with the character and financial circumstances of the applicant.

PRIZES

PICKARD PRIZE—A prize of $20 was offered last year by Dr. J. L. Pickard for the encouragement of extempore speaking to the student in political science who was awarded first rank in competitive extemporary debate. A prize of the same value is again offered for this year. The competitive debate will take place early in June.

LOWDEN PRIZES—Frank O. Lowden, Esq., of the class of 1885, offers prizes of the value of $25 each for excellence in Latin, in Greek, in botany, and in geology, and $50 in mathematics.

MAYER PRIZE—Mr. Max Mayer of Iowa City has established a prize of the annual value of $25 for excellence in scholarship and athletics. This prize is open to students of all colleges of the University.

THE LOCAL ALUMNI ASSOCIATION PRIZE—An annual prize of free tuition, $20, is offered to the freshman from Johnson county who passes the best special examination set for this purpose.

LARRABEE PRIZES—Mrs. William Larrabee offers three prizes of $25 each for excellence in scholarship, in botany, in geology, and in zoology.

OLD ENGLISH PRIZE—The Early English Text Society of London offers one of its texts as a prize for excellence in Old English.

A citizen of Iowa City offers a copy of Gray's Field Manual for the best work in the botany of the spring term.

Mr. Lowden has given $3,000 as an endowment to the Northern Oratorical League. As this University is a member of the league, students are invited to compete and share in the benefits of this endowment.

BRYAN PRIZE—Mr. William Jennings Bryan has established an annual prize of the value of $10 for the best essay on a subject pertaining to the science of government. The prize is open to any student in the University.

HAMILTON CLUB PRIZE—The Hamilton Club of Chicago

offers two prizes of the value of $100 and $50 each to the students who win first and second places respectively in the annual Hamilton Club oratorical contest. The contest is open to all students registered in the College of Liberal Arts.

THE JOHN BARRETT PRIZES—The Honorable John Barrett, United States Minister to Panama, offers prizes of $100, $75, and $50 to be awarded to the authors of the best papers on "The Relations of the United States with the Latin-American Republics." This prize is open to the undergraduate students of the University.

The Association for Maintaining the American Women's Table at the Zoological Station at Naples and for Promoting Scientific Research by Women offers a prize of $1,000 for the best thesis written by a woman, on a scientific subject, embodying new observations and new conclusions based on an independent laboratory research in biological, chemical or physical science.

The Dante Society offers an annual prize of $100 for the best essay by a student in any college of the University, or by a graduate of not more than three years' standing, on a subject drawn from the life or works of Dante. For the year 1905-06 the following subjects are proposed:

1. A Study of the Vocabulary of Dante's Lyrics. 2. The Classification of Dante's Miscellaneous Lyrics. 3. The Influence of Boethius on the Vita Nuova and the Convito. 4. A Discussion of the Authorship of "Il Fiore." 5. A Study of Dante's Influence upon English Literature (or upon any single author or period.)

THE COLLEGE OF LIBERAL ARTS

COLLEGE OF LIBERAL ARTS

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.* 603 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth; LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867. 32 Bloomington St. (108 Liberal Arts)

SAMUEL CALVIN, M. A., 1874; LL. D., 1904; Cornell College; PH. D., 1888, Lenox; F. G. S. A.

Professor and Head of the Department of Geology, 1874. 522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878. 728 Washington St. (206 Science Hall)

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D., 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and Head of the Department of Philosophy, 1887. 704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor of Experimental Physics, and Secretary of the Faculty of the College of Liberal Arts, 1883. 707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, 1886. 612 N. Dubuque St. (113 Liberal Arts)

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1886.
922 E. Washington St. (304 Science Hall)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn College.

Professor and Head of the Department of Political Economy and Sociology and Director of the School of Political and Social Science, 1889. 11 E. Bloomington St. (205 Liberal Arts)

ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A., 1901, Amherst; M. D , 1895, Iowa; PH., D., 1904, Yale.

Professor and Head of Department of Chemistry and Toxicology, 1888. 1011 Woodlawn. (Chemical Laboratory)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Professor of American History, and Head of the Department, 1894. 629 N. Dubuque St. (222 Liberal Arts)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1893. 311 Ronalds St. (120 Liberal Arts)

GILBERT LOGAN HOUSER, B. S., 189[illegible]; M. S. 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Biology, 1892.
422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895. 219 N. Clinton St. (202 Liberal Arts)

CLARK FISHER ANSLEY, B. A., 189[illegible], Nebraska.

Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE Call, B. A., 1880; M. A., 1883, Iowa.

Professor of Greek Language and Literature, 1885.
21 N. Dubuque St. (106 Liberal Arts)

HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.

Professor of Public Speaking, 1900.
303 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.

Professor of Greek Literature and Archeology, and Head of the Department of Greek and Secretary of the Graduate Faculty, 1900. 7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1893, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900.
1019 College St. (217 Liberal Arts)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S., School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A.; B. S., 1904; LL. B., 1904, Iowa.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901. Clinton St. (Armory)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890.
529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897.
204 Fairchild St. (211 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900.
222 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.

Professor in Education, and Inspector of High Schools, 1901.
221 Fairchild St. (216 Liberal Arts)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology and Assistant Curator of the Museum of Natural History, 1894. 911 Iowa Ave. (303 Science Hall)

FRANK ALONZO WILDER, B. A, 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903.
603 N. Dubuque St. (106) Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884: M. A., 1887, Iowa.

Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR GEORGE SMITH, B. PH., 1891; M. A., 1895, Iowa.

Professor of Physics and Mechanics, 1893.
West Side. (Hall of Physics)

JOHN GEORGE CHALMERS, B. A., 1901, Lafayette.

Professor and Director of Physical Training and Athletics, 1903.

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Professor of Commerce and Statistics in the Department of Political Economy and Sociology, 1898.
505 Washington St. (209 Liberal Arts)

WILLIAM GALT RAYMOND, C. E., 1881, Washington University.

Professor of Civil Engineering and Director of the School of Applied Science, 1904. 606 S. Johnson St. (17 Liberal Arts)

SHERMAN MELVILLE WOODWARD, M. S., 1893, Washington University; M. A., 1896, Harvard.

Professor of Steam Engineering, 1904. 4 Bloom Terrace. (Engineering Hall)

GEORGE T. FLOM, B. L., 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.

Acting Professor in Charge of Scandinavian Languages and Literatures, 1900 609 Summit St. (10 Liberal Arts)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.

Assistant Professor of German, 1892 303 East Burlington St. (102 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.

Assistant Professor of German, 1898. 225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901, M. A., 1902, Harvard.

Assistant Professor in French, 1901. 127½ S. Dubuque St. (120 Liberal Arts)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.

Assistant Professor in charge of Electrical Engineering, 1903. 330 N. Linn St. (West Building)

HERBERT CLIFFORD DORCAS, B. PH. 1895, Iowa; M. A., 1903, Columbia.

Assistant Professor of Education, University Examiner and Registrar, 1895. 429 Ronalds St. (108 Old Capitol)

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A., 1880, Iowa; LL. D., 1904, Coe College.

Lecturer on Education, 1891. Cedar Rapids, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.

Lecturer on Journalism, 1900. Cedar Rapids, Iowa

CARL LEOPOLD VON ENDE, B. S., 1893, M. S., 1894, Iowa; PH. D., 1899, Goettingen.

Instructor in Chemistry, 1899. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell University; PH. D., 1898, Leipzig.

Instructor in Mathematics, 1899. (12 Liberal Arts)

*SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900, Johns Hopkins.

Instructor in English. 209 Fairchilds St. (207 Liberal Arts)

*Resigned January 1, 1905.

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Biology, 1898.
120 E. Market St. (104 Science Hall)

SAM BERKLEY SLOAN, B. A., 1899, Nebraska,
Instructor in English, 1899. 506 N. Linn St. (118 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897, M. A.. 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902.
120 N. Dodge St. (317 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902.
223 N. Capitol St. (205 Liberal Arts)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E. 1901; Iowa.
Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A., 1900, Iowa.
Instructor in English, 1900. (226 Liberal Arts)

CHARLES L. BRYDEN, E. M., 1902; B. S. in Chemistry, 1904, Lafayette College.
Instructor in Mining and Metallurgy, 1904.
402 Church St. (Chemical Laboratory)

CHARLES THAYER LINCOLN, B. S., 1901, Massachusetts Institute of Technology.
Instructor in Chemistry, 1904.
4 E. Market St. (Chemical Laboratory)

EDWARD LEWIS DODD, B. A., 1897; M. A., 1901, Western Reserve University; M. A., 1902; PH. D., 1904, Yale.
Instructor in Mathematics, 1904.
526 N. Linn. (115 Liberal Arts)

WILLIAM J. KARSLAKE, B. S., 1891; M. S., 1894, Lafayette; PH. D., 1895, Johns Hopkins.
Instructor in Chemistry, 1904.
935 Iowa Ave. (Chemical Laboratory)

JAMES BERT MINER, B. S., 1897; LL. B., 1899; M. S., 1901, Minnesota; PH. D., 1903, Columbia.
Instructor in Philosophy, 1904.
430 N. Gilbert St. (215 Liberal Arts)

WILLIAM E. BECK, B. S., 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900.
518 S. Clinton St. (115 Liberal Arts)

VALBORG KASTMAN, B. A., 1904, Iowa.
Assistant Instructor in Physical Training, 1902.
4 Jefferson St. (Close Hall)

MARY SLEIGHT EVERTS,
Assistant in Public Speaking; Acting Dean of Women, 1901.
714 N. Linn St. (127 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896, Penn College; M. A., 1902, Iowa.
Assistant Instructor in English, 1902.
521 N. Linn St. (226 Liberal Arts)

HERTHA LOUISE VOSS, B. PH., 1904, Iowa.
Assistant Instructor in French, 1904.
20 E. Market. (6 Liberal Arts)

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903. Iowa.
Fellow in Zoology, 1902.
318 N. Dubuque St. (205 Science Hall)

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di.. 1900, Iowa State Normal; B. PH., 1903; M. A., 1904, Iowa.
Fellow in Sociology, 1903.
220 N. Dubuque St. (204 Liberal Arts)

DANIEL STARCH, B. A., 1903, Charles City College; M. A., 1904, Iowa.
Fellow in Philosophy, 1903.
208 Fairchild St. (214 Liberal Arts)

CARL VOLNEY KENT, B. S., 1904; M. A., 1904, Iowa.
Fellow in Physics, 1903.
230 Fairchild St. (Hall of Physics)

MAY SHUCK, B. PH., 1904, Iowa.
Fellow in English, 1903. West Side

JOSEF WIEHR, B. PH., 1904, Iowa.
Fellow in German, 1903. (Liberal Arts)

SARAH ELIZABETH CRONIN, B. S., 1903, Iowa.
Fellow in Mathematics, 1904. (Liberal Arts)

HARRY HOLLAND FITCH, B. A.. 1902, Iowa.
Fellow in Latin, 1904.

FREDERIKE BARBARA HAAN, B. A., 1904, Wisconsin.
Fellow in German, 1904.

CHRISTIAN EMIL BALE, B. A., 1904, Luther College.
Scholar in English, 1904.

SEBERN WALDO HOCKETT, B. S., 1904, Iowa.
Scholar in Geology, 1904.

EDWIN ALEXANDER JENNER, B. S., 1903, Simpson College.
Scholar in Psychology, 1904.

JOSEPH OLIVER JOHNSON, B. PH. 1904, Iowa.
Scholar in Political Science, 1904.

JUDSON FISK LEE, B. A., 1904, Des Moines College.
Scholar in Public Speaking, 1904.

BESS PEEBLES, B. PH., 1904, Upper Iowa University.
Scholar in English, 1904.

ALICE RIGBY, B. PH., 1902, Cornell College.
Scholar in English, 1904.

ELIZABETH LEWIS SHERWOOD, B. A., 1881; M. A., 1903, Iowa.
Scholar in English, 1903.

ETHEL LENORE SMITH, B. A., 1904, Penn College.
Scholar in German, 1904.

ETHELIND SWIRE, B. PH., 1904, Iowa.
Scholar in French, 1904.

FERN MARIAN WILLIAMS, B. A., 1903, Tabor College.
Scholar in Greek, 1904.

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist, 1900. 8 College St. (Science Hall)

GARRETT BOS.
Laboratory Assistant in Physics and Mechanics, 1904.

JOHN WILLIAM CARVILLE.
Assistant in Geology, 1892.

LUCY M. CAVANAGH, B. S., 1896, Iowa.
Assistant in Botany, 1902. 711 Church St. (Science Hall)

HENRY VALENTINE FARR, B. S., 1903, Penn College.
Storekeeper in Chemistry, 1904. (Hall of Chemistry)

HARRY MORGAN IVINS, B. S., 1904, Iowa.
Laboratory Assistant in Animal Biology, 1904.

FRANK ROLAND MOLSBERRY.
Director of the Band, 1903.

HERBERT LOVELACE MOON.
Undergraduate Assistant in Animal Biology, 1904.

HARLOW MUNSON PRATT, B. S., 1903, Iowa.
Armorer, 1904.

SARAH RUTH QUIGLEY, B. PH. 1902, Iowa.
Assistant in English, 1902.

FRED JAY SEAVER, B. S., 1902, Morningside College.
Assistant in Botany, 1902.

SAMUEL EDWIN SHAFF.
Assistant in Shop Practice, Civil Engineering, 1902.
126 W. Jefferson St. (Engineering Hall)

OTTO VICTOR WILLE.
Undergraduate Assistant in Animal Biology, 1904.

STANDING COMMITTEES OF THE FACULTY OF THE COLLEGE OF LIBERAL ARTS.

ADMISSION CLASSIFICATION AND CONDITIONED STUDENTS: Professors Wilson, Currier, Nutting, Loos, Raymond, the Registrar.

COURSES OF STUDY: Professors Currier, Macbride, Weld, Loos, Houser, Raymond, Ansley, Bolton, Seashore.

EXECUTIVE: The President, Professors Macbride, Loos.

FIRST YEAR STUDENTS: Professors Plum, Shimek, Wells.

LIBRARY: The President, Professors Nutting, Shambaugh, Fairbanks.

MILITARY: Professors Burnett, Gordon, Smith, Wilder, Chalmers.

PHYSICAL CULTURE OF WOMEN: The Dean of Women, Professors Call, Chalmers.

PREPARATORY SCHOOLS: Professors Brown, Potter, Wickham, Macbride, Magowan.

PROGRAMME: Professors Flom, the Registrar, Professor Weld.

RULES: Professors Veblen, van Steenderen, Shambaugh.

SUMMER SESSION: Professors Bolton, Wilcox, Ansley, Shimek, Rockwood.

REQUIREMENTS FOR ADMISSION

Applicants for admission to the freshman class in any of the courses of the College of Liberal Arts should be at least sixteen years of age, and must present satisfactory evidence of having completed the preparatory studies specified below. An examination is required of all students who do not present acceptable certificates.

It is expected that the following branches of study will be completed in the grammar school: Practical arithmetic, reading, penmanship, elementary English grammar and English composition, geography, bookkeeping (single entry), physiology (the statutory requirements for primary and grammar schools), United States history (two semesters' work).

In estimating the amount of work required for admission, a *preparatory credit* is regarded as the equivalent of one study daily for a term of eighteen weeks on the basis of four studies a day. Thus eight credits stand for a normal year's work.

For admission to first year standing thirty preparatory credits are required. No student will be admitted whose deficiences exceed the amount represented by three credits, except as provided in the following paragraph. Candidates having deficiencies not exceeding this limit may be admitted upon condition that they complete their preparatory work within the first year after admission. Students who are admitted with conditions can make them up in the University, in the accredited preparatory schools of the city or under the direction of tutors approved by the faculty.

Applicants for admission to the College of Liberal Arts who present thirty credits in acceptable preparatory subjects but who are deficient in required preparatory work may be admitted as unclassified students. When all requirements for first year standing have been met, such unclassified students will be transferred to the list of regular candidates for a degree.

Graduates from three-year high schools may be admitted on like conditions.

Of the thirty preparatory credits required for admission to any course in this college, except the courses in engineering, *seventeen are specific requirements and thirteen elective.*

SPECIFIC AND ELECTIVE REQUIREMENTS FOR ADMISSION TO ALL COURSES:

One foreign language	4 credits
English	6 credits
History (may include civics and economics)	2 credits
Algebra	3 credits
Plane geometry	2 credits
Electives	13 credits

NOTES

1. The specific and elective requirements in the foregoing paragraph are in themselves sufficient for admission to the course in forestry, and to the combined courses in *medicine, *homeopathic medicine, and dentistry.

2. For admission to the courses in engineering solid geometry, one credit, is one of the required subjects, making eighteen specifically required credits and twelve elective.

3. Students who offer only two years of foreign language for entrance to the Bachelor of Arts course will have their electives limited inasmuch as they will be required to carry at least twenty semester hours of foreign language before graduation, of which sixteen hours must be in one foreign language. When two years of Latin are offered to fulfill entrance requirements in foreign language sixteen semester hours in Latin must be earned in the University.

4. Students who present no preparatory credits in foreign language will be registered as unclassified students until they have satisfactorily completed, without University credit, the amount of work laid down in this announce-

*Students who fail to present at least one year of work in Latin for admission to the combined course in medicine, or in homeopathic medicine will be required to take the one-year course in Medical Latin at the University.

ment as constituting two years of preparatory work in some one foreign language. Facilities will be provided for doing this work in the University, in the accredited schools of Iowa City or under tutors approved by the University.

ELECTIVES

The electives presented for admission may consist of additional work in foreign languages to complete the entire thirty credits, or of additional work of approved character in English, history, solid geometry, or science as outlined under group V. on page 70. Candidates are advised to present additional work in a foreign language, English, history, or solid geometry rather than to present the maximum of six semesters' work in science. When additional work in Latin or modern languages is presented as an elective, it is provided that not less than two years be given to some one language, and not less than one year to each additional language that may be offered.

EXAMINATION FOR ADMISSION

Applicants presenting proper certificates from accredited schools showing that they have completed the preparatory studies required for admission, as specified above will be admitted without examination. These certificates are to be made out on blank forms which will be furnished on application to the President of the University, and they must contain specific statements as to the amount of work done in each study. Delay in matriculation will be avoided if these certificates are made out and forwarded to the University before September 1.

Applicants from accredited schools presenting certificates for work not fully meeting the requirements for admission may satisfy these requirements by passing examinations on the subjects in which they are deficient.

If an applicant for admission by certificate has completed the prescribed amount of preparatory work in certain branches of study in considerably less time than that

*For admission as unclassified students see page 108.

indicated as being necessary under ordinary conditions, the University reserves the right to examine him in such branches of study.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once to the University Examiner, who will give all necessary directions.

For *each separate* examination given at any other time than that announced in the programmes which follow, a fee of *one dollar* will be charged by the University. For a *series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

Students who are admitted with conditions will have opportunities for making up their deficiencies either in the University, in the accredited preparatory schools of the city or under the direction of tutors approved by the University.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 18, to Wednesday, September 20, 1905

Greek,	2 to 4 credits, Monday,	1:30 p. m.
Latin,	2 to 8 credits, Monday,	3:30 p. m.
French,	2 to 4 credits, Monday,	1:30 p. m.
German,	2 to 4 credits, Monday,	3:30 p. m.
English and English Grammar,	2 credits, Tuesday,	4:30 p. m.
Literature,	2 credits, Tuesday,	8:00 a. m.
General History,	2 credits, Tuesday,	9:30 a. m.
English History,	1 credit, Tuesday,	11:00 a. m.
United States History,	1 credit, Tuesday,	1:30 p. m.
Civics,	1 credit, Tuesday,	2:30 p. m.
Economics,	1 credit, Tuesday,	3:30 p. m.
Algebra,	3 credits, Wednesday,	8:00 a. m.
Plane Geometry,	2 credits, Wednesday,	9:30 a. m.
Physical Geography,	1 credit, Wednesday,	11:00 a. m.
Physics,	2 credits, Wednesday,	1:30 p. m.
Botany,	1 credit, Wednesday,	3:00 p. m.
Physiology,	1 credit, Wednesday,	4:00 p. m.

SECOND SEMESTER

Thursday, February 8, to Saturday, February 10, 1906

The examinations will be held at the same hours as in the programme above, reading Thursday, Friday, and Saturday for Monday, Tuesday, and Wednesday, respectively.

ADVANCED STANDING

Students from approved colleges bringing proper certificates of work and standing will be admitted without examination. In determining their position in the University, however, the value of the work done will be measured by the University standards.

Students coming from colleges whose requirements for admission are substantially those of the University will be admitted ordinarily to equal rank, *provided they enter not later than the beginning of the senior year.* The assignment of studies will be at the discretion of the faculty.

Graduates of the four years' course of the Iowa State Normal School will be given advance standing of sixty semester hours without examination and will be required to spend two years at the University before receiving a degree.

The requirement that all applicants for admission to the University must bring certificates showing that they have completed two years' work in some one foreign language applies also to applicants for advanced standing.

THE SUBJECTS REQUIRED OR ACCEPTED FOR ADMISSION

GROUP I—FOREIGN LANGUAGES

In the case of each of the four foreign languages which may be offered for admission a course of study is suggested. What the University demands, however, is proficiency in the subject rather than a particular course of foreign language study, and the courses are outlined simply to indicate how the necessary proficiency may be attained.

1. GREEK — Grammar, Xenophon's *Anabasis* (four books), Homer's *Iliad* (three books).

The preparatory work in Greek should give thorough knowledge of grammatical forms, familiarity with the common rules of syntax, and a considerable working vocabu-

lary. White's *First Greek Book* and Goodwin's *Greek Grammar* are the books recommended for beginners. Exercise in writing Greek should be kept up through the whole preparatory course in order to fix the student's knowledge of vocabulary as well as of grammar, and to place it completely at his command. The work in Homer should give familiarity with peculiar Homeric forms, the commoner words in the Homeric vocabulary, and the meter of the epic.

For the present the University offers a course in beginning Greek, and students coming from high schools where Greek is not taught may offer preparatory credits from the elective group instead of four credits in Greek. Such students will receive university credit for work in beginning Greek.

2. LATIN—Grammar, Cæsar (four books), Cicero (six orations), Vergil (six books), with Prosody.

Instead of the prescribed Cæsar an equivalent amount of *Viri Romae* or Nepos will be accepted. It is expected that four of the six required orations of Cicero (The Catiline orations being taken as the standard of length) and four of the six books of Vergil will be read thoroughly, and the remainder rapidly with a view to securing facility in translation. Equivalents in kind will be accepted for any part of the specific requirements. Sight reading should be taught and practiced from the first. An accurate and ready knowledge of grammatical forms and construction and a good vocabulary are of essential importance. Unless the student has acquired this knowledge, he is not prepared for freshman work in Latin.

Exercise in writing Latin, based upon the current reading, ought to be carried through the *entire preparatory course*. An amount equivalent to Collar, Part III, is required for admission.

The Roman pronunciation is used in the University.

3. FRENCH—Grandgent's Essentials of French Grammar or Frazer and Squair's French Grammar, together with van Steenderen's *Quartre Contes de Mérimée*, Halévy's *L'Abbé Constantin*, or Mérimée's *Colomba* will be accepted as a first year's work in French. From the outset careful

attention should be paid to pronunciation; the grammatical rules learned should immediately and constantly be applied in written and oral composition, while sight-reading and oral translation are especially recommended.

The second year's work in French should continue the study of French grammar, but mainly by means of the drill afforded by the reading of such authors as Victor Hugo, Lamartine, Dumas père, Balzac, and Alphonse Daudet. Composition should be continued by means of such a textbook as Francois and Giroud's *Simple French.* The pronunciation of the student should constantly have the careful attention of the teacher.

4. GERMAN—During the first year the work in German should comprise: (1) Careful drill upon pronunciation; (2) the memorizing and frequent repetition of easy colloquial sentences; (3) drill upon the rudiments of grammar, that is, upon the inflections of the articles, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs, also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word order; (4) abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; (5) the reading of from seventy-five to one hundred pages of graduated texts.

During the second year the work should comprise: (1) The reading of about one hundred and fifty pages of literature in the form of easy stories and plays; (2) accompanying practice in the translation into German of easy variations upon the matter read; (3) continued drill upon the rudiments of the grammar.

For a fuller statement of the work to be done and for suggestions as to the methods and available texts, the teacher is referred to Section VII of the *Report of the Committee of Twelve of the Modern Language Association of America,* which has been issued in a convenient form by Messrs. D. C. Heath & Co. This report should be in the hands of every teacher of modern languages.

GROUP II—ENGLISH

5. ENGLISH—Applicants for admission to the College of Liberal Arts are required to present at least six semester credits in English. Other credits in English may be presented as electives. If six credits only are offered in the subject, they should be as follows:

a. Composition and rhetoric.....2 2-5 credits.

Proper preparation for this requirement includes constant practice in writing, with careful correction and revision of themes. A part of the time should be devoted to the study of some good text-book. Text-books suggested are: Herrick and Damon's *Composition and Rhetoric;* Hill's *Beginnings of Rhetoric and Composition;* Kavana and Beatty's *Composition and Rhetoric;* Keeler and Davis's *Studies in English Composition;* Lewis's *Inductive Lessons in Rhetoric;* Lockwood and Emerson's *Composition and Rhetoric;* Merkley's *Modern Rhetoric;* Newcomer's *Elements of Rhetoric;* Scott and Denney's *Composition Rhetoric;* Smith-Thomas's *Complete Course;* Webster's *English Composition and Literature.*

b. Literature.....3 3-5 credits

Throughout the high school course much attention should be paid to English and American Literature. Entire master-pieces suited to the attainments of the class should be carefully studied. In addition, collateral reading should be assigned and written reports required. Among the master-pieces should be those suggested in the "uniform college entrance requirements" in English. For 1905 these are as follows:

(1). For careful study:

Burke's Speech on *Conciliation with America*: Macaulay's Essays on *Milton* and *Addison;* Milton's Minor Poems; Shakespeare's *Macbeth.*

(2). For general reading:

Addison's *Sir Roger de Coverly Papers;* Coleridge's *The Ancient Mariner;* Eliot's *Silas Marner;* Goldsmith's *The Vicar of Wakefield;* Lowell's *The Vision of Sir Launfal;* Scott's *Ivanhoe;* Shakespeare's *The Merchant of Venice;* Shakespeare's *Julius Caesar;* Tennyson's *The Princess.*

During the last year of the course a good outline history of English Literature, such as Halleck's, Moody and Lovett's, Painter's, Pancoast's, Scudder's, or Simonds's, should be carefully studied.

For the study of American Literature, text-books suggested are: Noble's *Studies in American Literature;* Matthew's *Introduction to American Literature;* Newcomer's *American Literature;* Pancoast's *American Literature.*

The requirements in English are in harmony with the report of a committee representing the colleges and secondary schools of Iowa. This committee recommends to secondary schools the following course of study in English, the figures indicating the number of recitation periods each week:

FIRST YEAR

First Semester	*Second Semester*
Composition and Rhetoric—3	Composition and Rhetoric—3
English Classics—2	English Classics—2

SECOND YEAR

Composition and Rhetoric—2	Composition and Rhetoric—2
English Classics—3	English Classics—3

THIRD YEAR

Composition and Rhetoric—1	Composition and Rhetoric—1
English Classics—4	English Grammar—4

FOURTH YEAR

Composition and Rhetoric—1	Composition and Rhetoric—1
History of English Literature and study of English Classics—4	History of English Literature and study of English Classics—4

The expression "English Classics" as used in this outline means classics written in English. American literature is of course not excluded.

An extract from the report of the committee follows:

"Although the colleges require but three years' work in English for admission to the freshman class, the committee strongly recommends that all four year high schools offer

a four year course in English and that all graduates from these high schools take the entire course. However, in the case of pupils who are especially proficient in English or who are doing more than four years' work in foreign language, the work of the third year may be omitted. Pupils who are preparing for college should be careful to include in their reading all the classics indicated as belonging to the list of readings for entrance to college."

GROUP III—HISTORY, CIVICS, AND ECONOMICS

6. HISTORY—At least two semesters' work should be presented in history. One semester's work in civics will be accepted in partial fulfilment of this requirement. The course of study and available text-books should be selected from the following: First semester, *History of Greece* (Oman, Smith, Cox, or Meyers); second semester, *History of Rome* (Allen, Morey, Smith, or Meyers); third semester, *History of England* (Larned, Montgomery, or Gardiner); or *The History of the United States* (Channing, Thomas, Fiske, Johnston, Montgomery, McMaster, or McLaughlin); fourth semester, *The History of the United States*, or *Civil Government*, (Fiske's *Civil Government*, or Andrews' *Manual of the Constitution*).

Instead of the first two semesters' work in history indicated above, which is preferred, the University will accept for the present two semesters' work in general history from one of the following text-books: Meyers, Fisher, Freeman, or Colby.

7. CIVICS—As indicated in the preceding paragraph at least one semester's work should be presented in civics, following where possible, elementary work in the grammar school. This work in civics should preferably follow at least a part of the work in history. (Fiske's *Civil Government*, or Andrew's *Manual of the Constitution*).

8. ECONOMICS—(a) A half year's work on the principles of political economy as presented in the following text-books will be accepted: J. Laurence Laughlin's *Elements of Political Economy* (American Book Co.); Francis A. Walker's *First Lesson in Political Economy* (Henry Holt & Co.); or (b) Industrial history and the elements

of economic theory studied on the basis of an outline like Henry W. Thurston's *Economics and Industrial History for Secondary Schools* (Scott, Foresman & Co.); or Frederick R. Clow's *Introduction to the Study of Commerce* (Silver, Burdette & Co.).

GROUP IV—MATHEMATICS

9. ALGEBRA—The algebra of the high school should comprise a careful study of the following topics: signs and symbols; fundamental operations; factoring (including lowest common multiple and highest common divisor); fractions; simple and quadratic equations; theory of exponents (including negative and fractional exponents and radicals); progressions. Especial attention should be given to such salient points as the significance of the minus sign, factoring, theory of exponents, equations, and the formal statement of algebraic problems. The interpretation of algebraic results with their graphical representation should be introduced at the earliest possible stage and constantly insisted upon.

Three credits, representing at least one and a half years' work with daily recitation, are required in algebra.

10. GEOMETRY—Plane geometry is required for admission to all courses. Provision is made for teaching solid geometry in the University but preparatory credit will be allowed for the work if completed in the high school. University credit can be earned only by special examination.

In beginning the study of geometry the "heuristic" method is recommended (see Hopkin's *Manual of Plane Geometry*, D. C. Heath & Co.; Spencer's *Inventional Geometry*, American Book Co.; Campbell's *Observational Geometry*, Harper & Brothers). Whatever method is used, the pupil should be provided with adequate drawing instruments and should construct and verify all of his positions and theorems. Geometric processes and results should be expressed by algebraic symbols whenever possible. Original investigations should not simply be encouraged, but should be insisted upon as a matter of course. The eminently practical side of the study of geometry is not to be lost sight of, but the work should be so arranged that it may be

of the highest disciplinary value. The language of all geometrical exercises should be exact.

Two credits, representing at least one year's work with daily recitation are required in plane geometry. A third semester may be devoted to solid geometry.

11. ARITHMETIC—The work in arithmetic should in general be completed in the grammar grades. A half year's work in arithmetic and review algebra may be done with great profit in the high school after the completion of the required work in algebra and geometry. Not only will a general review of the subject be found beneficial in itself, but the higher point of view now attainable may be taken advantage of in many ways.

In addition to the five credits in algebra and geometry, one credit for advanced work in arithmetic, and one credit for work in bookkeeping (by double entry) will be accepted as part of the elective credits.

It is desirable that the high school work in mathematics be not finished until the end of the course, in order that there may be no break in the continuity of the work between the high school and the University.

GROUP V—SCIENCE

Work in the sciences named below will be accepted in partial fulfilment of the requirements for admission, provided that the student has given to each subject offered not less than the time indicated in the table below. The subjects are arranged in order of preference.

Beginning with September, 1905, two semesters' work in chemistry with adequate laboratory facilities and regular laboratory work by the pupils will be required for credit.

1. Physics, 36 weeks;
2. Botany, 18 weeks;
3. Physical Geography, 18 weeks.
4. Physiology, 18 weeks;
5. Chemistry, 36 weeks;
6. Zoology, 18 weeks;

12. PHYSICS—One of the chief aims of the course in physics should be to train pupils in accurate and impartial observation, and to develop independent judgment rather than to impart knowledge of a large number of facts. Con-

stant use should be made of problems in which the pupil may apply the mathematics he has already mastered.

The competent teacher will know how to make valuable use of simple apparatus, such as can be made or procured at home; but the subject cannot be satisfactorily presented without some special instruments, and these should be of modern design and good workmanship. In all schools there should be a supply of such appliancecs as will enable the teacher to present to the class in a successful manner the more interesting demonstrations of phenomena and laws.

Among the good text-books and manuals are: Carhart and Chute's *Elements of Physics* (Allyn & Bacon); Geo. A. Hoadley's *A Brief Course in Physics* (American Book Co.); Charles B. Thwing's *An Elementary Physics* (Benj. H. Sanborn & Co); Rowland and Ames's *Elements of Physics* (American Book Co.); Hall & Bergen's *A Text Book of Physics* (Henry Holt & Co.).

One full year should be given to the study of physics. Of this time not less than one-half should be devoted to experiments and observations by the pupil.

13. BOTANY—The aim should be to make pupils familiar with the local flora, especially in its economic aspects. The habit of accurately observing and then carefully recording should be established from the first. Probably a carefully kept note book will be found much better than an herbarium.

The following text-books are suggested as suitable for the guidance of study in elementary botany; Macbride's *Lessons in Elementary Botany* (Allyn and Bacon); Coulter's *Plant Relations* (D. Appleton & Co.); Bergen's *Botany;* Barnes' *Outlines of Plant Life* (Henry Holt & Co.); Bailey's *Lessons with Plants* (The Macmillan Co.); Leavitt's *Outlines of Botany* (The American Book Co.); Coulter's *Plant Structures* (D. Appleton & Co.); Atkinson's *Elementary Botany* (Henry Holt & Co.); Stevens' *Introduction to Botany* (D. C. Heath & Co.).

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations or exercises per week for half the school year.

14. PHYSICAL GEOGRAPHY — The pupil should gain a

knowledge of the simpler facts and principles of the mathematical geography, such as the relations of the members of the solar system, the form and movements of the earth, the phases of the moon, etc.; the atmosphere, the atmospheric phenomena, such as winds, temperature, precipitation, etc., and their causes; the evolution of the land forms, including the modifying agencies and their mode of operation; the ocean, its movements, their causes, their effects upon climate and life; the life of the ocean; the effect of climate and topography on human activity, etc.

The following text-books are recommended; Dryer's *Lessons in Physical Geography* (American Book Co.); *Introduction to Physical Geography*, by Gilbert & Brigham (Appletons); *Elementary Physical Geography*, by W. M. Davis (Ginn & Co.); *Physical Geography*, by W. M. Davis (Ginn & Co.); *Elementary Lessons in Physical Geography*, by A. Geikie (The Macmillan Co.); *Elementary Physical Geography*, by R. S. Tarr (The Macmillan Co.); The *Topographic Atlas of the United States, Physiographic Types*, Folios I, II, and III, published by the United State Geological Survey, at twenty-five cents each are very valuable for class exercises. The following books are excellent for reference: *The Teaching of Geography*, by A. Geikie (The Macmillan Co.); *The Realm of Nature*, by R. H. Mill (Chas. Scribner's Sons); *Earth Sculpture*, by Jas. Geikie (G. P. Putnam's Sons); *Geography of the Region of Devil's Lake and the Dalles of the Wisconsin*, by R. D. Salisbury and W. W. Atwood, published by the Wisconsin Geological Survey, E. A. Birge, Director, Madison, Wisconsin; *Government maps for use in Schools*, by Davis, King, and Collie (Henry Holt & Co.); the county reports published by the Iowa Geological Survey will furnish valuable aid in field work. The local field should be used for illustration as far as possible. Map, globes, physiographic models, etc., are indispensible to the efficient teaching of this subject. The Rand-McNally Company of Chicago, publishes an excellent series of physical maps of the continents and oceans.

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations or exercises per week for half the school year.

15. PHYSIOLOGY—For preparation in physiology, the method of study should combine certain work of a practical nature with lessons from the text-book. This practical work should embrace the observation of general physiological phenomena through experiments so simple that the pupil can make most of them, supplemented by demonstrations in anatomy and microscopy carefully prepared by the teacher. Expensive apparatus is not only unnecessary for this work, but it is really out of place. Even the microscope should be used only as an occasional accessory to what the pupil may observe with unaided vision. The keeping of notes and sketches, recording clearly and systematically the more important observations, should accompany the course throughout.

The following text-books are recommended as indicating the scope of acceptable preparatory work: Colton's *Physiology, Briefer Course* (D. C. Heath & Co.); Martin's *Human Body, Briefer Course*, revised by Fitz (Henry Holt & Co.); Blaisdell's *Practical Physiology* (Ginn & Co.); Foster & Shore's *Physiology for Beginners* (The Macmillan Co.); Macy's *Physiology for High Schools* (American Book Co.).

The minimum amount of work for which preparatory credit will be given is the equivalent of five recitations and laboratory exercises per week for half the school year.

16. CHEMISTRY — Emphasize facts rather than theories. Great care should be taken that pupils are not left with the impression that formulas or equations control the phenomena instead of being merely their expression. Laboratory work is regarded as essential to an understanding of the subject. The experiments should be simple, and the inferences from them as direct as possible. Any arrangement in schedule form, with headings for "observations," "conclusions," and the like, tends to deaden thought rather than to arouse it. No credit will be given for work in this branch in schools where there is no laboratory whatever. Chemistry should be omitted from the high school course except in those schools where adequate laboratory facilities are available for individual laboratory work continuing throughout one year. *Elements of Chemistry*, by Paul C. Freer (Allyn & Bacon); *Elements of Chemistry*, by Ira Remsen (Henry

Holt & Co.); *Elements of Inorganic Chemistry*, by J. H. Shepard (D. C. Heath & Co.), are recommended as suitable text-books for use in secondary schools.

Beginning with September, 1905, the minimum time to be devoted to chemistry in order to receive credit should be one year of daily laboratory work.

17. ZOOLOGY—Elementary zoology should deal principally with the easily ascertained facts concerning some few animal forms. It is therefore recommended that the general anatomy and life histories of some typical groups of animals be made the subject of the study, and that the aim be the acquisition of the habit of correct observation and a definite knowledge concerning a few animals, rather than the learning of classification and a superficial knowledge of the animal kingdom as a whole.

Directions for laboratory work are found in most text-books. Money for this purpose should be expended in plain but convenient tables, good dissecting microscopes, and a few cheap tools rather than in expensive compound microscopes.

Pupils should be induced to examine carefully, and to make the most of each specimen. They should be encouraged to ask questions, and to find the answer for themselves as far as practicable.

The following text-books indicate the character and extent of the preparatory work in zoology which will be accepted: *Practical Zoology*, Colton, (D. C. Heath & Co.); *School Zoology*, Burnet (American Book Co.); *Lessons in Zoology*, Needham (American Book Co.); *Animal Life*, Jordan (D. Appleton & Co.).

The minimum time to be devoted to zoology in order to receive credit for admission to the University should be one hour's laboratory work daily for a half year. This should be supplemented by field work and reading under the direction of the teacher.

COURSES OF STUDY

COURSE OF STUDY LEADING TO THE DEGREE OF BACHELOR OF ARTS

Freshman Year

(EACH SEMESTER)

English,		2 hours
French 5; German 5; Greek 5; Latin 4		5 or 4 hours
Elective	Mathematics (see note 2) 4	8 or 9 hours
	History, economics and government; (one only) 4	
	Animal biology; botany; chemistry; zoology (one only) 4	
	Foreign language (see note 3) 4 or 5	
		14 or 15 hours

Sophomore Year

(EACH SEMESTER)

English	3 hours
Elective, not more than six hours in one department (see note 4)	12 hours
	15 hours

Junior and Senior Years

REQUIRED: a major study in some one department, extending through the two years, and equivalent to at least four hours during each of the four semesters; with the approval of the department in charge of the major, the required study may be extended into an allied department (see note 4).

NOTES

1. For the degree, credits to the number of 120 semester-hours are required.

2. Mathematics is prerequisite to the regular work of physics, and to the advanced work of chemistry and commerce; if it be the purpose later to enter upon any of these studies, mathematics should be elected in the first year.

3. Not more than nine hours of foreign language may be carried in either semester of the first year.

4. In the entire course, work to the extent of twelve semester-hours must be completed in each of the two groups in which the major study does not fall. For the purposes of this requirement, the several departments of instruction are grouped as follows:

GROUP I	GROUP II	GROUP III
English	Classical archeology	Animal biology
French	Education	Astronomy
German	History	Botany
Greek	Philosophy	Chemistry
Latin	Political economy	Geology
Public speaking	Political science	Mathematics
Sanskrit	Psychology	Physics
Scandinavian	Sociology	Zoology
Spanish, Italian		

GENERAL AND SPECIAL COURSES IN THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE

In accordance with the requirements for the degree of Bachelor of Arts the School of Political and Social Science has arranged one general and four special courses of study each leading to this degree.

I. The general social science course.
II. The course in commerce.
III. The course in government and administration.
IV. The course in modern history.
V. The course in practical philanthropy.

GENERAL SOCIAL SCIENCE COURSE.

Freshman Year

(EACH SEMESTER)

Requirements as laid down for the first year in the course leading to the degree of Bachelor of Arts.

Sophomore Year.

(EACH SEMESTER.)

English, 3 hours; elective, 6 to 9 hours in economics, politics, and history; and from 3 to 7 hours in psychology, language, or science.

Junior and Senior Years.

A large part or all of the work of these years may be taken in history, political science, political economy and sociology. Students should advise with heads of departments or with the Director of the School of Political and Social Science concerning the order and grouping of their electives. Each student will be held responsible for exercising his right of election, in accordance with the requirements for the Bachelor of Arts degree stated above, on page 23.

COURSE IN COMMERCE

FIRST YEAR

First Semester		*Second Semester*	
English		2	
Foreign language		4 or 5	
Mathematics		5 or 4	
Indust. Hist. (Ec. 1)	4	Actual gov't (Pol. 6)	4

SECOND YEAR

English		3	
Principles of economics	3	Economic history	3
Commercial Geography	3	Resources of U. S.	3
Chemistry	4	Chemistry	4
Foreign language or history		3	

THIRD YEAR

Money and banking	3	Public finance	3
Corp., finance and acc't'g	3	Transportation	3
Statistics	2	Statistics	2
International law and commerce	2	The consular service	2
Foreign language, history, chemistry, or other science		4 or 5	

FOURTH YEAR

Commercial policies	5	Commercial relations	5
Contracts	3	Agency	2
Bills and notes	2	Partnership	2
Taxation	2	Insurance (mathem. of)	2
Elective	4 or 5	Comparative state legislation	3
		Elective	2

COURSE IN GOVERNMENT AND ADMINISTRATION

FRESHMAN AND SOPHOMORE YEARS

The same as in the General Social Science Course, but that the student is advised to elect Actual Government in the freshman year and the Introduction to Political Science in the sophomore year.

JUNIOR YEAR

First Semester		*Second Semester*	
Principles of American government	3	Contemporary state legislation	3
Municipal Gov.	2	Colonial government	2
Money and banking	3	Public finance	3
Statistics	2	Statistics	2
American history	3	American history	3
The labor problem	2	The Labor Problem	2

SENIOR YEAR

Jurisprudence	3	Constitution law	3
Administrative law	2	Administrative law	2
International law	3	Sociology	3
American political theory	2	American political theory	2
Commercial policies	5	Commercial policies	5

COURSE IN MODERN HISTORY

FRESHMAN AND SOPHOMORE YEARS

The same as in the General Social Science Course.

JUNIOR YEAR

First Semester		*Second Semester*	
English history	3	English history	3
The renaissance and the reformation	2	Historical research and criticism	2

Principles of American government	3	Comparative state legislation	3
Municipal government	2	Colonial government	2
Money and banking	3	Public finance	3
Elective	5	Elective	5

SENIOR YEAR

American history	3	American history	3
Modern European history	2	Modern European history	2
International law	3	Introduction to sociology	3
Jurisprudence	3	Constitutional law	3
Historical seminary	2	Historical seminary	2

COURSE IN PRACTICAL PHILANTHROPY

FRESHMAN AND SOPHOMORE YEARS

The same as in the General Social Science Course.

JUNIOR YEAR

Anthropology	3	Sociology	3
Psychology	3	Psychology	3
Modern history	3 or 2	Modern history	3 or 2
Ethics	2	Ethics	2
Elective	4 or 5	Elective	4 or 5

SENIOR YEAR

Social amelioration	3	Crime and charities	3
Distribution of wealth	3	Social legislation	3
Statistics	2	Statistics	2
Abnormal psychology	2	Administrative law	2
Education	4 or 5	Education	4 or 5

For further details concerning the courses of study offered by the School of Political and Social Science, separate announcements of that school must be consulted. Students may, in consultation with heads of departments, group their electives with special reference to some definite line of inquiry or in preparation for some definite pursuit.

COURSE RECOMMENDED BY THE CLASSICAL GROUP

For students who propose to work in literature, in history, or in philosophy, and in particular for students who are preparing to be teachers of Latin, the classical group

of the faculty recommend what has been known as the Classical Course. In this course students should elect as freshmen Greek 5 hours and Latin 4 hours; as sophomores, Greek 5 hours (second year Greek); and before graduation they should complete two years' work in either French or German.

SUGGESTED COURSES FOR TEACHERS.

DEFINITE PREPARATION NECESSARY

Students expecting to teach should make definite preparation for the work by properly selecting and grouping their University courses. Experience of several years in placing teachers has shown that those who have not made suitable preparation find themselves handicapped in securing a position; and what is more important, in filling it efficiently. Superintendents are making demands for trained teachers and in the larger cities they will take no others.

The following suggested conditions may readily be fulfilled as a part of the requirements for the Bachelor of Arts degree.

GENERAL WORK

Because of the variety of work which every beginning teacher is required to do, and because of state certificate requirements, at least elementary university courses should be taken in not less than five subjects which are taught in the high schools.

SPECIALIZED WORK

Each teacher should have special and extended preparation in two or three subjects. Experience has shown that the following combinations are most frequently demanded: Latin, German; English, German; English, history, civics; English, Latin, history; mathematics, physics, chemistry; physics, chemistry; botany, zoology, physiography. In the largest schools Greek is sometimes given with Latin; and French with German. One teacher is frequently required to teach all the sciences. Public speaking is desirable as a part of the preparation for English.

PROFESSIONAL EDUCATION

Professional training is as necessary for the teacher as for the physician, lawyer or engineer. The best superintendents demand teachers with professional equipment. The minimum taken should include:

Education, one year, 6 hours a week.

Psychology, one year, 3 hours a week.

The psychology should generally precede the work in education. For the present this is not absolutely required. It is also very desirable that a course in biological work should precede the work in education.

CIVIL ENGINEERING

FRESHMAN YEAR

	First Semester	Second Semester
English 101 (102)	2 hours	2 hours
Mathematics (First Year Group A)	5 hours	5 hours
Drawing (Engin. 1)	5 hours	
Descriptive geometry (Engin. 2)		5 hours
Chemistry 45, 47	5 hours	
Surveying (Engin. 12)		4 hours
Economics 46		2½ hours
	17 hours	18½ hours

SOPHOMORE YEAR

English 121 (122)	1 hour	1 hour
Mathematics (Second Year Group A	5 hours	5 hours
Physics 41 (42)	5 hours	5 hours
Surveying (Engin. 13)	3½ hours	
Mineralogy (Geol. 3)	2½ hours	
Geology 4		2½ hours
Botany 26		2½ hours
Machine drawing (Engin. 6)		1 hour
	17 hours	17 hours

JUNIOR YEAR

	First Semester	Second Semester
English 131 (132)	1 hour	1 hour
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a)		2½ hours
Water supply (Engin. 28b) } Sewerage (Engin. 30b) }		2½ hours
Strength of materials (Engin. 15)	5 hours	
Structures (Engin. 18)		5 hours
Astronomy and geodesy 108		4 hours
Bacteriology 21	1 hour	
Water analysis (Chem. 43)	1 hour	
Metallurgy (Chem. 51b)	1½ hours	
Architecture and building construction (Engin. 39a)	1½ hours	
Highway engineering (Engin. 22a)		1 hour
Kinematics (Engin. 33 (34))	1 hour	1 hour
	17 hours	17 hours

SENIOR YEAR

English 141 (142)	1 hour	1 hour
Electricity (Engin. 53)	5 hours	
Electrical engineering (Engin. 54)		5 hours
Contracts (Engin. 23a)	2 hours	
Railroad engineering (Eng. 25b)	2½ hours	
Thermodynamics and prime movers (Engin. 38)		5 hours
Structural design (Engin. 19 (20))	5 hours	5 hours
Thesis 100		
	15½ hours	16 hours

SANITARY ENGINEERING

The freshman and sophomore years are the same as in the civil engineering course.

JUNIOR YEAR

	First Semester	Second Semester
English 131 (132)	1 hour	1 hour
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a)		2½ hours
Water supply (Engin. 28b) } Sewerage (Engin. 30b) }		2½ hours
Strength of materials (Engin. 15)	5 hours	
Structures (Engin. 18)		5 hours
Sanitary chemistry 44		5 hours
Bacteriology 3	5 hours	
Biology 1 (6)	2 hours	2 hours
	18 hours	18 hours

SENIOR YEAR

English 141 (142)	1 hour	1 hour
Electricity (Engin. 53)	5 hours	
Electrical engineering (Engin. 54)		5 hours
Contracts (Engin. 23a)	2 hours	
Railroad engineering (Engin. 25b)	2½ hours	
Thermodynamics and prime movers (Engin. 38)		5 hours
Structural design (Engin. 19)	5 hours	
Highways (Engin. 22a)		1 hour
Sanitary inspection, design and construction (Engin. 32)		4 hours
Thesis 100		
	15½ hours	16 hours

MECHANICAL ENGINEERING

The freshman year is the same as in the civil engineering course.

SOPHOMORE YEAR

English 121 (122)	1 hour	1 hour
Mathematics (Second Year Group A)	5 hours	5 hours
Physics 41 (42)	5 hours	5 hours
Machine drawing (Engin. 3 (4))	1 hour	1 hour
Shop Work 7 (8)	5 hours	5 hours
	17 hours	17 hours

JUNIOR YEAR

	First Semester.	Second Semester.
English 131 (132)	1 hour	1 hour
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a)		2½ hours
Strength of materials (Engin. 15)	5 hours	
Structures (Engin. 18)		5 hours
Heating and ventilating (Engin. Hydraulic machinery (Engin. 26b) 40b)		2½ hours
Machine design (Engin. 35a)	2½ hours	
Factory management (Engin. 37b)	1 hour	
Metallurgy (Chem. 51b)	1½ hours	
Theory of heat engines (Engin. 36)		5 hours
Kinematics (Engin. 33 (34))	1 hour	1 hour
	17 hours	17 hours

SENIOR YEAR

English 141 (142)	1 hour	1 hour
Electricity (Engin. 51 (52))	5 hours	5 hours
Electrical engineering (Engin. 54)		5 hours
Contracts (Engin. 23a)	2 hours	
Mechanical engineering laboratory (Engin. 41 (42))	3 hours	5 hours
Mechanical engineering design (Engin. 43 (44))	5 hours	5 hours
Thesis 100		
	16 hours	16 hours

ELECTRICAL ENGINEERING

The freshman year is the same as in the civil engineering course.

SOPHOMORE YEAR

English 121 (122)	1 hour	1 hour
Mathematics (Second Year Group A)	5 hours	5 hours
Physics 41 (42)	5 hours	5 hours
Chemistry 7	3 hours	
Electro-chemistry 8		3 hours
Shopwork (Engin. 9 (10))	3 hours	3 hours
	17 hours	17 hours

JUNIOR YEAR

	First Semester.	Second Semester.
English 131 (132)	1 hour	1 hour
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a)		2½ hours
Hydraulic machinery (Engin. 26b) / Heating and ventilating (Engin. 40b)		2½ hours
Electricity (Engin. 51 (52))	5 hours	5 hours
Machine design (Engin. 35a)	2½ hours	
Factory management (Engin. 37b)	1 hour	
Metallurgy (Chem. 51b)	1½ hours	
Theory of steam engine (Engin. 36)		5 hours
Kinematics (Engin. 33 (34))	1 hour	1 hour
	17 hours	17 hours

SENIOR YEAR

English 141 (142)	1 hour	1 hour
Strength of materials (Engin. 15)	5 hours	
Structures (Engin. 18)		5 hours
Contracts (Engin. 23a)	2 hours	
Electricity (Engin. 55(56))	5 hours	5 hours
Mechanical engineering laboratory (Engin. 41 (42) part)	1 hour	2 hours
Electrical engineering laboratory (Engin. 57 (58))	2 hours	3 hours
Thesis 100		
	16 hours	16 hours

MINING ENGINEERING

The freshman year is the same as in the civil engineering course, except that in place of economics in the second semester, there will be required chemistry 20, 2½ hours.

SOPHOMORE YEAR

English 121 (122)	1 hour	1 hour
Mathematics (Second Year Group A)	5 hours	5 hours
Physics 41 (42)	5 hours	5 hours
Surveying (Engin. 13)	3½ hours	
Chemistry 53	2 hours	
Machine drawing (Engin. 6)		1 hour
Electro-chemistry 8		3 hours
Geology 1 (2)	2 hours	2 hours
	18½ hours	17 hours

Summer field work (Engin. 80)

JUNIOR YEAR

	First Semester	Second Semester
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a)		2½ hours
Ore dressing (Engin. 76b)		2½ hours
Strength of materials (Engin. 15)	5 hours	
Structures (Engin. 18)		5 hours
Petrology (Geology 11)	4 hours	
Assaying (Chem. 52)		4 hours
Mineralogy (Geol. 31 (32))	3 hours	3 hours
	17 hours	17 hours
Summer field work (Engin. 80)		

SENIOR YEAR

Electricity (Engin 53)	5 hours	
Thermodynamics and prime movers (Engin. 38)		5 hours
Mining (Engin. 77 (78))	5 hours	5 hours
Metallurgy (Chem. 49 (50))	3 hours	3 hours
Ore deposits (Geol. 33 (34))	2 hours	2 hours
Mining law	1 hour	1 hour
Thesis 100		
	16 hours	16 hours

COURSE OF STUDY IN FORESTRY

The constantly increasing interest in forestry in this country, and the recognition of the wastefulness which has characterized our treatment of forest resources in the past, has resulted in a growing demand for the services of those who can intelligently administer such resources. There is also a rapidly expanding field of activity opening to those who are competent to direct the decorative planting of towns and cities. In addition to these there is a popular demand for wider information concerning tree culture for both ornamental and economic purposes, and intelligent citizens are awakening to a realization of the necessity not only of reproducing our former forests, but of extending them beyond their original limits.

The course in forestry is offered to meet, in part, these demands for trained specialists, as well as for wider general information on forestry subjects. It extends over four collegiate years, with additional field work.

The courses in English, chemistry, physics, geology, bacteriology, drawing, descriptive geometry, surveying, mechanics, hydraulics, highways, and strength of materials (including timber physics) are the same as those prescribed in the course in civil engineering. The course in economics is that designated as the Resources of the United States. The course in practical zoology deals largely with the zoology of the forest. The courses in mathematics lead to the required work in the department of civil engineering. A brief course in simple bridge-construction will also be introduced in connection with other technical work.

A course in a special branch of forestry may be selected by the student in place of Spanish in the first semester of the senior year. Students who contemplate seeking employment in the Philippines or Porto Rico, or in the Southwest, are advised to take Spanish.

FORESTRY

FRESHMAN YEAR

	First Semester.	Second Semester.
English 101 (102)	2 hours	2 hours
Mathematics (First Year Group C)	4 hours	4 hours
Drawing (Engin. 1)	5 hours	
Descriptive geometry (Engin. 2)		5 hours
Chemistry 45, 47	5 hours	
Plant morphology (Bot. 6)		4 hours
Dendrology (Bot. 25) chiefly Saturday	1 hour	
Surveying (Engin. 12) field work Saturday		3½ hours
	17 hours	18½ hours

SOPHOMORE YEAR

	First Semester	Second Semester
English 121 (122)	1 hour	1 hour
Mathematics (Second Year Group C)	4 hours	4 hours
Physics 41 (42)	5 hours	5 hours
Plant physiology and histology (Bot. 1)	2 hours	
Plant ecology (Bot. 3)	3 hours	
Dendrology (Bot. 26) / Geology 4		5 hours
Surveying, etc. (Engin. 13) Field work Saturday	3½ hours	
	18½ hours	17 hours

JUNIOR YEAR

German or French 1 (2)	5 hours	5 hours
Meteorol. and climatology (Phys.20)	2 hours	2 hours
Mechanics (Phys. 49)	5 hours	
Hydraulics (Engin. 26a) / Forest mensuration (Bot. 32)		5 hours
Bacteriology 21	1 hour	
Economics 30		3 hours
Forest products (Bot. 31)	2 hours	
Highways (Engin. 22a)		2 hours
Arboriculture (Bot. 27) Partly Saturdays	3 hours	
Arboriculture (Bot. 28) 3rd qr. 1 hr. 4th. qr. 3 hrs		2 hours
	18 hours	19 hours

SENIOR YEAR

Strength of materials (Engin. 15)	5 hours	
Forestry in the U. S. (Bot. 34)		5 hours
Silviculture (Bot. 29 (30))	3 hours	3 hours
Practical zoology 7 (8)	3 hours	3 hours
Lumbering (Bot. 33)	3 hours	
Forest protection (Bot. 38)		2 hours
Forest management (Bot. 36)		3 hours
History of forestry (Bot. 30)		1 hour
Spanish 1, or Special forestry	3 hours	
	17 hours	17 hours

Throughout the course the equivalent of at least one scheduled hour of work is done in the field on Saturdays.

*MILITARY SCIENCE AND TACTICS

Instruction in these branches, both theoretical and practical is required of all male students of the freshman and sophomore classes and of all unclassified male students during their first and second years, unless such students are specially excused.

PHYSICAL TRAINING

The University requires a physical examination of every student on entrance, without cost to the student. Each student will then be assigned to such physical training as the report of the examination warrants. For the women two years of physical training is required and is provided for in a gymnasium especially fitted for this purpose and opened in October, 1904. Three years of physical training, including two years of military drill, is required of male students. For the use of the men of the University there was opened in February, 1905, a large new Armory and Athletic Pavilion with room for indoor drill and completely equipped with the most modern running track and gymnasium apparatus.

REGULAR STUDENTS

All students, except as provided under "unclassified students," must elect one of the courses of study outlined above and follow it as laid down in the order as prescribed, carrying not more than sixteen and not less than fourteen hours of lectures or recitations a week except as required by the programme of their course, or permitted by the faculty.

UNCLASSIFIED STUDENTS

1. Persons twenty-one years of age, not candidates for a degree, may be admitted as unclassified students without examination, and may pursue studies at the discretion of the

*For specific requirements and all particulars consult "Military Science," and "Physical Training."

faculty on the recommendation of the professors in charge of the subjects chosen.

2. Such students of the professional colleges as are allowed to carry additional work in this college, not candidates for a degree in this college, will be recorded as "unclassified." If students of either of these classes become candidates for a degree in the College of Liberal Arts, they will be required to furnish evidence, by examination or acceptable certificate, of having completed the preparatory requirements.

3. Persons under twenty-one years of age not candidates for a degree, admitted to the college without conditions, whose reasons for irregular work are approved by the faculty, may be registered as unclassified.

4. Unclassified students are subject to the same requirements as regular students as to amount of work to be carried, examinations, and scholarship.

COMBINED LIBERAL ARTS AND PROFESSIONAL COURSES

COMBINED LIBERAL ARTS AND LAW COURSE

Students of the College of Liberal Arts who have completed their junior year and are entitled to senior standing at the beginning of the University year may be enrolled in the College of Law and receive credit for one year's time of law study while completing their senior year in the College of Liberal Arts, by complying with the following conditions: They must schedule for five hours a week in the College of Law in the subjects of the first year, given throughout the year at 9 o'clock; and for five hours of prescribed electives and five hours of free electives in the College of Liberal Arts. The five hours of prescribed electives must be courses in the College of Liberal Arts approved by a joint committee of the College of Liberal Arts and the College of Law from the group of subjects embracing political and social science, including political and institutional history. Students thus scheduled and earning credit for elements of jurisprudence, international law, and constitutional law in the College of Liberal Arts are excused from elementary law, international law and constitutional law,

except constitutional limitations, as given in the College of Law, and the grades made by students in such subjects in the College of Liberal Arts will be accepted as credits in the College of Law. Students of this course must, however, with the exception of the absolute equivalents above enumerated, pass examination in all the subjects of the law course prior to graduation. It is further provided that the student who has gained a time equivalent of ten semester hours by carrying extra work during his second and third years, or by attendance upon summer sessions of the University, may schedule for ten hours of Law and five hours of Liberal Arts work subject to the rules of the University governing permission to carry extra work. The ten semester hours of credit allowed in the College of Liberal Arts for work done in the College of Law will be granted only to those who have registered in the combined course and conformed to its conditions.

Students in the College of Law not candidates for a Liberal Arts degree may take work in the College of Liberal Arts not to exceed five hours per week so long as they maintain a good standing in their law studies and do this elected work to the satisfaction of the professors in charge.

COMBINED COURSE OF SIX YEARS LEADING TO THE DEGREE OF B. S. IN THE COLLEGE OF LIBERAL ARTS, AND TO THE DEGREE OF M. D. IN THE COLLEGE OF MEDICINE OR THE COLLEGE OF HOMEOPATHIC MEDICINE

(The requirements for admission to this course pertain to the College of Liberal Arts, not to the professional college.)

FIRST YEAR

(EACH SEMESTER)

German or French	5 hours
English	2 hours
Mathematics	4 hours
Animal biology	4 hours
	15 hours

SECOND YEAR

(EACH SEMESTER)

English*	3 hours
Physics	4 hours
Animal biology	4 hours
Botany or zoology	4 hours
	15 hours

THIRD YEAR

(EACH SEMESTER)

German or French*	3 hours
Chemistry	6 hours
Human anatomy in the College of Medicine	4 hours
Human physiology in the College of Medicine	3 hours
	16 hours

FOURTH, FIFTH, AND SIXTH YEARS

Medical work exclusively.

NOTES

1. The degree of B. S. to be conferred at the end of the fourth year; the degree of M. D., at the end of the sixth year if the work has been completed.

2. This course must be pursued as here outlined, no substitutions or changes in the order of studies being permitted, except that the starred (*) English and foreign language may be transposed.

COMBINED COURSE OF SIX YEARS LEADING TO THE DEGREE OF B. S. IN THE COLLEGE OF LIBERAL ARTS, AND TO THE DEGREE OF D. D. S. IN THE COLLEGE OF DENTISTRY

(The requirements for admission to this course pertain to the College of Liberal Arts, not to the College of Dentistry).

FIRST YEAR

(EACH SEMESTER)

German or French	5 hours
English	2 hours
Mathematics	4 hours
Animal biology	4 hours
	15 hours

SECOND YEAR

(EACH SEMESTER)

English*	3 hours
Physics	4 hours
Animal Biology	4 hours
Botany or Zoology	4 hours
	15 hours

THIRD YEAR

(EACH SEMESTER)

German or French*	3 hours
Chemistry	4 hours
Elective in the College of Liberal Arts	8 hours
	15 hours

FOURTH YEAR

(EACH SEMESTER)

Chemistry	3 hours
Human Anatomy	4 hours.
Human Physiology	3 hours
Freshman Dental Laboratory Work	5 hours
	15 hours

FIFTH AND SIXTH YEARS

Dental work exclusively.

NOTES

1. The degree of B. S. to be conferred at the end of the fourth year; the degree of D. D. S., at the end of the sixth year if the work has been completed. This course must be taken as here outlined, except that the starred (*) English and foreign language may be transposed.

2. Students of marked ability may shorten this course to five years by taking electives in the College of Liberal Arts during successive summer sessions.

COURSE PREPARATORY TO THE STUDY OF THEOLOGY

First and Second Years

The regular Bachelor of Arts course.

First Year	*Second Year*
Plato—3 (Seneca—2)	New Testament Greek—3
Psychology—3	History of philosophy—3
Logic and ethics—3	Sociology—3
Economics—3	Elective—6
Elective—5	

BACCALAUREATE DEGREES.

For each of the courses of study leading to a bachelor's degree four years' work is required.

On completion of the regular courses, or of the special courses approved by the faculty, the following degrees are conferred:

Bachelor of Arts upon those who complete the four years' course in the arts and sciences.

Bachelor of Science upon those who complete either of the engineering courses, the course in forestry, or the first four years of either of the combined courses in medicine, homeopathic medicine, and dentistry.

The degree of Bachelor of Didactics is conferred upon *graduates* in the regular courses who have completed the required work in education and can show proof of two years' successful teaching after graduation.

SPECIAL CERTIFICATES IN GERMAN, FRENCH, ENGLISH AND LATIN

Special certificates as to scholarship in German, in French, in Latin, or in English will be granted under the authority of the faculty of the College of Liberal Arts on the following conditions:

1. They shall be issued to students of this University on or after graduation only.

2. They shall be in the nature of an authorized guarantee as to scholarship in German, in French, in Latin, or in English.

3. They shall be issued only after *at least* three years

of full work (to represent *five* hours of lectures and recitations a week or an equivalent) in one of these subjects.

4. Candidates must pass a final examination in the subject in which the certificate is desired.

5. The examination must be conducted by the professor in charge of the subject, assisted by such other instructors as may be agreed upon by him and the President of the University.

6. These certificates will be signed by the President and by the professor immediately concerned.

PROFESSIONAL CERTIFICATES IN EDUCATION

The University will grant the certificates named and described below on the following general conditions:

1. An average standing of 8 1-2 must be attained in all subjects.

2. The candidate must give such evidence of superior ability in his work as will, in the judgment of the faculty, entitle him to a recommendation as a teacher or supervisor of schools. It is distinctly understood that not all work which may count towards a degree is necessarily sufficient to count towards these certificates.

I. SUPERVISOR'S CERTIFICATES

The University will issue an university supervisor's certificate to each student who includes in his course for his baccalaureate degree the work designated in this paragraph. In issuing this certificate, the University gives its official recommendation to the recipient, in view of the work which he has done during his university course, as being a person suitable to engage in the work of organizing and conducting graded schools.

The requirements are:

1. General psychology, six semester hours.

2. Courses 1 (*2*), 3 (*4*), 5 (*6*), 7 (*8*), 11 (*12*), and 13 in education, aggregating twenty-four semester hours.

3. General knowledge. Additional work sufficient to meet the requirements for graduation from one of the courses in the College of Liberal Arts.

II. TEACHER'S CERTIFICATES

The University will issue a teacher's certificate to each student who includes in his course for his baccalaureate degree the work designated in this paragraph. In issuing this certificate the University gives its official recommendation to the recipient, in view of the work which he has done during his university course, as being a person suitable to engage in the public school service. The requirements are:

1. Special knowledge.

(a) The student must secure a certificate of special proficiency in one of the subjects in which the University grants such certificates; *or*

(b) He must complete an amount of work of not less than twenty-four semester hours in the aggregate in a subject or group of allied subjects, which he expects to teach, and for which the University grants no special certificate.

The special subject required, and the candidate's proficiency will be determined by the head of the department in which the major part of the work is done.

2. Professional knowledge. The student must complete the following work in the departments of philosophy and education:

(a) Two semesters of three hours a week in psychology; and

(b) Six hours a week for a year (twelve semester hours) in education, including the course in child study, and the course in the principles of education. The remainder of the educational work must be selected from courses 3 (*4*), 5 (*6*), 7 (*8*).

OUTLINE OF THE PLAN OF INSTRUCTION

NOTE. *Additional courses in almost all departments are offered in the Summer Session. The announcement of the Summer Session will be sent on application to the President of the University.*

SANSKRIT

PROFESSOR POTTER

The courses in Sanskrit are intended to afford a general introduction to Indo-European comparative grammar and to lay the foundation for future reading in the literature and philosophy of the ancient Hindus.

For additional courses in Indo-European grammar see Greek, course 35 (*36*); Latin, course 35; German, courses 11-16, 19; Scandinavian, courses 9 (*10*), 13 (*14*), 17 (*18*), 19 (*20*); English, courses 87 (*88*), 79 (*80*), 81, 82, 73.

*1. Sanskrit grammar and the reading of easy selections from the Nala. Lectures on Sanskrit phonology.

First semester; Tu., Th.

2. Introduction to the Veda. Lectures on Hindu history and literature.

Second semester; Tu., Th.

A supplementary reading course for the purpose of drill in vocabulary and grammatical forms is offered in the summer session.

*Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Where a course runs through the year it receives a double number, e. g. 1 (2); the whole course is designated in the calendar by the first number, but on the registrar's books each half of the course is designated by its own number.

GREEK LANGUAGE AND LITERATURE

PROFESSOR FAIRBANKS; PROFESSOR CALL

The first two courses in Greek are intended to give the student an accurate knowledge of forms, syntax, and vocabulary, such that in the more advanced courses he can read with comparative ease and appreciate the character of the literature he is studying. While the first aim of all the work in the department is an accurate knowledge of the Greek language, it is not treated as a dead language, and every student is taught to feel that this work brings him into real contact with a people whose thought and literature and art have inspired much of what is best in our own civilization.

A. ELEMENTARY COURSES

Courses 5 to 8 are open to those who have completed course 4.

1 (2). BEGINNING GREEK—A course in beginning Greek is offered to students who desire by a special effort to acquire in one year the ability to read simple Attic prose. Goodwin's *Greek Grammar* and White's *First Greek Book* are used in the first semester; during the second semester three books of Xenophon's *Anabasis* are read. Professor CALL.

Daily at 11:00; throughout the year.

3 (4). XENOPHON; PLATO; HOMER—During the first four weeks the work in Xenophon is continued, and the principles of grammar reviewed. Plato's *Apology* and selections from his other writings occupy the remainder of the first semester. In the second semester Homer's *Odyssey* is read by the class, and lectures are given on Homeric times and on the character of the Greek epic. Professors CALL and FAIRBANKS.

Daily at 10:00; throughout the year.

5 (6). THE GREEK ORATORS—First semester: The earlier Greek orators; selections are read by the class and reports are given on orations which are not read in class;

lectures on the development of Greek oratory. Second semester: Demosthenes; the class reads the *Philippics* and the *Oration on the Crown* and individual members report on other orations. The special aim of the course is to introduce the class to the spirit of Greek oratory and to the technical methods of which it made use. Professor FAIRBANKS.

Mon., Wed., Fri., at 8:00; throughout the year.

NOTE. *This course is recommended to students who are also taking public speaking 9.*

7 (*8*). GREEK DRAMA, I: AESCHYLUS, PROMETHEUS BOUND; SOPHOCLES, ANTIGONE; EURIPIDES, ALCESTIS—In addition to the three tragedies studied in detail supplementary readings are required from other tragedies, and reports on the origin, literary form, and representation of Greek tragedy. Professor CALL.

Mon., Wed., Fri., at 8:00; throughout the year.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

9 (*10*). PLATO'S REPUBLIC—Special attention is paid to the development of the problems of Greek philosophy before Plato. The significance of Plato's thought as developed in the Republic and the influence of the Platonic system on his successors. Professor FAIRBANKS.

Mon., Wed., Fri., at 2:30; throughout the year.

11 (*12*). NEW TESTAMENT GREEK—A careful study of biblical Greek from the philological standpoint. Professor CALL.

Three hours a week.

This course will be given if called for by three or more students.

14. GREEK LITERATURE—An outline of the subject intended both for Greek students and for students not studying Greek. Professor FAIRBANKS.

One hour a week; second semester.

17 (*18*). GREEK PROSE COMPOSITION—A course intended to supplement the work in courses 5, 7, 9, and 11. Professor CALL.

One hour a week; throughout the year.

19 (*20*). GREEK DRAMA, II: SOPHOCLES—The entire seven plays are read with care; lectures on Greek metres, and on the historical development of Greek tragedy accompanying the reading; and students are expected to prepare one paper each semester on a subject connected with their work. Professor CALL.

Three hours a week; throughout the year.

Given in 1905-1906; omitted in 1906-1907.

C. COURSES PRIMARILY FOR GRADUATES

31 (*32*). GREEK DRAMA, III: ARISTOPHANES—A study of the extant comedies of Aristophanes, with special reference to the light they throw on the different phases of Greek life. Several comedies are read by the class together, and the remainder are made the subject of reports by individuals. Each member of the class is assigned a topic on which he prepares a careful paper embodying the results of his own research. Professor FAIRBANKS.

Two hours a week, and an additional hour at the pleasure of the instructor.

Given in 1903-1904; omitted in 1905-1906.

33 (*34*). PINDAR AND THE LYRIC POETS—The more important fragments of lyric poetry are read, and the extant poems of Pindar are made the subject of special study. Professor CALL.

Two hours a week; throughout the year.

Given in 1904-1905; omitted in 1905-1906.

35 (*36*). GREEK GRAMMAR, SOUNDS AND INFLECTIONS—The course corresponds in aim and method to the course in Latin grammar (Latin 35). Professor POTTER.

One hour a week; throughout the year.

Given in 1905-1906; omitted in 1906-1907.

A class in the Greek New Testament will be organized by Professor Fairbanks, and all students of Greek are urged to join it. The class will meet once a week, and no registration is required. The writings of John will be studied in 1905-1906.

A Greek club, composed of instructors and graduate students, has met once a fortnight at the house of an in-

structor. During the present year the Odyssey has been read and discussed by the club.

CLASSICAL ARCHEOLOGY

Art; History; Antiquities

With the exception of the advanced course in Greek history (Greek 21) the following courses do not require a knowledge of Greek. They are open to all students except freshmen.

Two hours a week throughout the year.

Greek 13 (*14*). OLD GREEK LIFE—Lectures, illustrated with lantern slides, books on art, etc. Collateral reading in English and examinations are required of the students; references are also given to the important works in French and German for those who can use these languages. The lectures will treat of the characteristics of the land and the people; the Greek house, dress, and mode of life; marriage and funeral customs; markets and trade generally; the duties of citizens in peace and war, etc. Professor FAIRBANKS.

Two hours a week; throughout the year.

Omitted in 1905-1906.

Latin 31 (*32*). ROMAN LIFE—This course follows the same lines as the preceding course in Greek life. Ordinarily it should be preceded or accompanied by the course in Pliny and Tacitus (Latin 11). Professor FAIRBANKS.

Tu., Th., at 3:30; throughout the year.

GREEK 21 (*22*). GREEK HISTORY—An advanced course in Greek history for students who are prepared to make investigations from the original sources. In 1905-1906 the period of the Peloponnesian war and the writings of Thucydides will be considered. Professor FAIRBANKS.

Three hours a week; throughout the year.

The introductory courses in Greek and Roman history are found under the department of history, course 1 (*2*).

GREEK 21 (*22*). GREEK ART—First semester: Sculpture. The work will be based on Gardner's Handbook of

Greek Sculpture. The collections of casts, photographs, and lantern slides are used in connection with each exercise.

Second semester: Architecture, vase-painting, and the minor arts. The student is made acquainted with the more important extant Greek and Roman buildings, and with the principles of architecture. For the study of vase-painting the library is specially well equipped; the lectures deal both with the development of technique, and with the scenes from Greek mythology and Greek life which are depicted on vases. Professor FAIRBANKS.

Mon., Wed., Fri., at 3:30; throughout the year.

NOTE. *On Friday the more important monuments of Greek art are discussed chronologically in illustrated lectures. Students wishing an outline of the subject are permitted to register for this one hour as 27 (28) a.*

Given in 1904-1905; omitted in 1905-1906.

Greek. 29 (*30*). GREEK RELIGION—Lectures on the nature of the gods, form of worship, divination, belief in the future life, and on the different stages in the development of Greek religion. Professor FAIRBANKS.

Wed., at 3:30; throughout the year.

This course is identical with course 29 (*30*) offered by the department of philosophy.

Latin. 37 (*38*). TOPOGRAPHY AND MONUMENTS OF ROME—Professor FAIRBANKS.

Two hours a week.

A lantern in the lecture room makes the large series of lantern slides available at any time to illustrate the work of the classes.

LATIN LANGUAGE AND LITERATURE

PROFESSOR CURRIER; PROFESSOR POTTER, PROFESSOR FAIRBANKS, MR. FITCH

A. ELEMENTARY COURSES

3 (4). CICERO—Selected orations. Mr. FITCH.

Tu., Wed., Th., Fri., 1:30 to 2:30.

5 (*6*). VERGIL—Æneid. Professor FAIRBANKS.

Tu., Wed., Th., Fri., 1:30 to 2:30.

7 (*8*). LIVY, CICERO, HORACE AND VERGIL—First semester: Livy, selections from Books I, XXI, and XXII; Cicero, *De Senectute* or *De Amicitia*. Second semester: Horace, *Odes;* Vergil, *Georgics* II or IV; Outline of Roman Literature. Grammar, writing Latin, and sight reading during the year. Those who show marked proficiency in writing Latin during the first semester are allowed an option of easy Latin, Cicero, and Aulus Gellius, to be read under the direction of the instructor during the rest of the year. Professor POTTER.

Tu., Wed., Th., Fri., at 8:00, 9:00 and 1:30.

9 (*10*). CICERO AND HORACE—Cicero, *Tusculan Disputations;* Terence, *Phormio*. Horace, *Satires*, and *Epistles*. These courses are mainly occupied with the literary side of the authors studied. Professor CURRIER.

Prerequisite, course 7 (*8*).

Mon., Wed., Fri., at 9:00.

11 (*12*). PLINY AND TACITUS—Selected Letters of Pliny. Tacitus, *Germania*, and *Agricola*. This course is principally literary and historical. As much attention is given to the Latinity of the Silver Age as is needful for the understanding and appreciation of the authors. Professor CURRIER.

Prerequisite, course 7 (*8*).

Tu., Th., at 9:00.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

13 (*14*). CICERO, QUINTILIAN, AND TACITUS—Cicero, de Officiis. Quintilian, Books X and XII. Tacitus, *De Oratoribus*. Particular attention will be paid to literary criticism as exemplified in these authors. Professor CURRIER.

Prerequisite, course 9 or 11.

Tu., Th., at 8:00; 1905-1906.

15 (*16*). TACITUS, AND SENECA—Tacitus, selections from the Annals and Histories. Seneca, *Morals and Letters*. Professor CURRIER.

Prerequisite, course 9 or 11.

Tu., Th., at 8:00.

Not given in 1905-1906.

It is expected that either 13 (*14*), or 15 (*16*) will be taken by all students choosing their major in Latin.

17. PLAUTUS—In this course the metres are carefully studied and some attention is given to the ante-classical forms and constructions; but as provision is made in other courses for a more systematic study of the language, the attention is directed mainly to the Roman stage, and to contemporary and later Roman playwrights. The *Captivi*, *Trinummus*, *Menaechmi*, and *Rudens* are read together with selected scenes from the *Amphitruo*, *Miles Gloriosus*, and *Mostellaria*. The analysis of several other plays is given in informal lectures. Professor POTTER.

Not given in 1905-1906.

First semester; Mon., Wed., Fri.

18. LUCRETIUS AND CATULLUS—The aim is to study Lucretius's art rather than his philosophical system. All the more poetic passages in the *De Rerum Natura* are read. In this course, and also in course 23, considerable attention is given to the structure of the verse, and to the reading of it. Catullus is studied particularly in his relation to his successors in lyric, epic, elegiac, and epigrammatic poetry. Professor POTTER.

Not given in 1905-1906.

Second semester; Mon., Wed., Fri.

19. CICERO'S LETTERS—As students before taking this course will have acquired considerable facility in reading Latin, the attention will be directed to the importance of the letters as historical documents. A large number of letters will be studied, selected with reference to the light that they throw on the many sided character of the orator, and also on the social and political conditions that prevailed at Rome at the end of the Republican period. Professor POTTER.

Not given in 1905-1906.

First semester, Mon., Wed., Fri.

20. LUCAN, *Pharsalia;* SENECA, *Medea*—The reading of the *Pharsalia* is supplemented with selections from Cæsar's

Civil War and Suetonius's *Lives*. Lectures introductory to the *Medea* treat of the Roman tragic writers who preceded Seneca, and an effort is made to show the relation of the Roman to the Greek plays. Professor POTTER.

Not given in 1905-1906.

Second semester, Mon., Wed., Fri.

21. ELEGIAC POETS—After a brief study of the Greek Elegiac poets the class will read the best elegies of Tibullus, Propertius, and Ovid. The aim of the course is to trace the history of classical elegaic poetry from Callinus to Ovid. Professor FAIRBANKS.

First semester, Mon., Wed., Fri.

22. THE SATIRES OF JUVENAL; THE EPIGRAMS OF MARTIAL—The course will include incidentally a study of the private life and amusements of the Romans as set forth in these poems. Professor FAIRBANKS.

Second semester, Mon., Wed., Fri.

23. THE WORKS OF VERGIL—This course consists of literary studies covering Vergil's complete works, but most of the time is devoted to the Æneid. Professor POTTER.

First semester; Mon., Wed., Fri., at 10:00.

25. CICERO'S CAREER AS AN ORATOR—This course combines original historical investigation covering the period from the time of the Gracchi till the death of Cicero, with the study of the orations, all of which are considered in chronological order. About thirty of the best speeches will be read by the class. The course includes a special study of the conspiracies of Catiline, based largely on Sallust, Asconius, and Cicero's Letters. Professor POTTER.

Prerequisite, courses 19, and 24 or 14.

Mon., Wed., Fri., at 10:00.

27 (*28*). CICERO, LIVY, AND OVID—Sight reading of suitable selections. Professor CURRIER.

Throughout the year; one hour a week.

30. TEACHER'S COURSE—This course combines theory, practice, and investigation. The members of the class serve as assistant teachers in a beginning Latin class, and investigate assigned problems. Prerequisite, course 23 or 25, and general pyschology. Professor POTTER.

Five times a week; three hours' credit; second semester.

C. COURSES PRIMARILY FOR GRADUATES.

33. EARLY LATIN—Metrical inscriptions and fragments of the poets. Professor POTTER.

First semester; Tu., Th.

Not given in 1905-1906.

34. PETRONIUS AND LATE LATIN—Apuleius's *Cupid and Psyche*, and selections from the Christian Hymns. On the linguistic side considerable attention will be given to the language of the common people and its relation to the Romance tongues. Professor POTTER.

Second semester; Tu., Th.

Not given in 1905-1906.

35. HISTORICAL LATIN GRAMMAR: SOUNDS AND INFLECTIONS—This course will be based on the reading of inscriptions selected for their linguistic interest and arranged chronologically from the earliest times to the seventh century, A. D. Each member of the class will be assigned some definite problem to investigate and report upon. Professor POTTER.

First semester; Tu., Th.

36. LATIN SYNTAX—Introduction to the study of historical syntax. Professor POTTER.

Second semester; Tu., Th.

The instructors of the Latin department meet fortnightly throughout the year to read in course and discuss informally the entire works of some author or period. Advanced graduate students in Latin will be invited to participate in these meetings.

The department is supplied with mounted photographs and lantern slides for the illustration of lectures.

For courses in Roman Antiquities and Archeology see Courses 31 (*32*), 37 (*38*).

24. HISTORY OF ROMAN ORATORY—The first part of the semester is devoted to a study of Roman oratory before Cicero. Cicero's Brutus and Cortese, Oratorum Romanorum Reliquiae are used. During the rest of the semester Cicero's orations for Roscius and against Verres are studied. Professor POTTER.

Second semester; Mon., Wed., Fri., at 10:00.

39 (*40*). ADVANCED COMPOSITION—This course is based largely on material found in Cæsar. Professor POTTER. Throughout the year; Mon. at 11:00.

COURSES FOR TEACHERS.

Candidates for Teachers' Certificates in Latin are expected to take the following courses after completing the courses of the freshman and sophomore years:

Junior Year.

19. Cicero's Letters. 24. History of Roman Oratory.

or

17. Platus. 18. Lucretius and Catullus.

Senior Year.

39 (*40*). ADVANCED COMPOSITION—This course is also open to juniors.

25. Cicero's Career as an Orator, or 23. The Works of Vergil.

30. TEACHER'S COURSE.

FRENCH LANGUAGE AND LITERATURE.

PROFESSOR VAN STEENDEREN; ASSISTANT PROFESSOR BUSH, MISS VOSS, MISS SWIRE.

A. COURSES FOR UNDERGRADUATES.

1. FIRST YEAR COURSE—In the first year of the study of French the student is expected to gain a good reading knowledge of the language, sufficient to enable him to make use of it in the pursuit of his other studies. The elements of grammar and the pronounciation are emphasized with a view to laying a thorough foundation for the reading. Fraser and Squair's *French Grammar;* Mérimée: *Quatre Contes;* Halévy: *L'Abbé Constantin.* Assistant Professor BUSH, Miss Voss.

First semester, four divisions, daily. A fifth division of this course will be formed at the opening of the second semester. Miss SWIRE.

(2). CONTINUATION OF COURSE ONE—Grammar com-

pleted. Mérimée: *Colombia;* Super: *Readings from French History;* Jules Verne: *Le Tour du Monde;* Landeau: *Mlle. Sergliere.* Assistant Professor BUSH, Miss VOSS.

Second semester, four divisions daily.

3 (*4*). SOPHOMORE COURSE—This course deals with the most interesting novels, short stories and plays of the great masters of fiction and drama in France during the nineteenth century, such as Victor Hugo, Dumas père and fils, Gautier Balzac, George Sand, Alphonse Daudet, Augier, Maupassant, Coppée, Halévy, and Pierre Loti.

The course imparts ability to reach French prose with ease and fluency, and encourages the use of French in the class room. Through analysis of style and treatment it accustoms the student to read critically and aims at the development of his appreciation of literature. Stress is laid on the study of the characteristics of French prose through the observation of words, idioms and phrase construction. Professor VAN STEENDEREN.

First and second semester, two divisions; Mon., Wed., Fri.

5 (*6*). SYNTAX, COMPOSITION, AND CONVERSATION—A course in the principles of French syntax, aiming to impart ability in the writing and speaking of French on the basis of grammatical understanding. The course includes thorough training in the translation of English into French, and in original expression in French, both oral and written. The members of the class will, moreover, be recommended to the American Committee on International Correspondence, which secures to each a correspondent in France. Francois' *Advanced Composition;* Berlitz, *Méthode 2ème Livre.* It is recommended that this course be taken with course 3 (*4*). It is required of the candidates for the Teachers' Certificate in French. Professor VAN STEENDEREN.

First and second semester; Tu., Th., at 10:00.

7 (*8*). HISTORY OF FRENCH LITERATURE FROM THE RENAISSANCE TO THE PRESENT TIME—A lecture course in English, with collateral reading. It is open to any one who can read French with some ease, and may be taken by sophomores and juniors alike. Professor VAN STEENDEREN.

Mon., Wed., Fri., at 10:00.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

9 (*10*). THE FRENCH DRAMA—Twelve representative French dramas are read in class, as follows: *Le Cid, Les Femmes savantes, Le Tartuffe, Athalie, Zaïre, Le Barbier de Séville, Hernani, Ruy Blas, La Question d'argent, La Bataille des dames, Le Monde où l'on s'ennuie, Cyrano de Bergerac,* or *L'Aiglon.* Lectures are given tracing the development of the French drama from the beginning. These lectures point out the connection between the plays read, and define the place of each play and its author in the general course of French dramatic development. Besides, the subject is studied in a comparative way by means of outside reading of plays of other nations, in translation or otherwise, so that an idea may be obtained of the position occupied in dramatic literature in general by the French drama. Assistant Professor BUSH.

First and second semester; Mon., Wed., Fri., at 11:00.

11. THE FRENCH NOVEL—This course, which is conducted on the seminary plan, begins with the consideration of the relation between the epic and the novel. The instructor analyzes the plots of the *Chanson de Roland,* the *Chanson d'Aliscans,* the *Roman de Troie,* and some of the *Romans de la Table Ronde.* Reports are given on some of the *Fableaux,* on the *Roman de Renart,* and the *Roman de la Rose.* Then the *Heptaméron,* and Rabelais's *Gargantua et Pantagruel* are briefly considered. Stress is laid on *L'Astrée* of Honoré d'Urfé and its influence on other novelists of the XVIIth century. The class reads Mme. de la Fayette's *La Princesse de Clèves,* and reports are given on Fénelon's *Télemaque,* and on novels by Le Sage, Marivaux, and Prévost, on *La Nouvelle Héloïse,* and on *Paul et Virginie.* Professor VAN STEENDEREN.

First semester; Mon., Wed., Fri., at 11:00.

12. Continuation of Course 11. The members of the class read and report on the principal novels and short stories of the XIXth century. Morillot's *Le Roman en France depuis 1610* is used as a text-book. Professor VAN STEENDEREN.

Second semester; Mon., Wed., Fri.,

Courses 9, *(10) and* 11, *(12) are given in alternate years. Course* 9, *(10) will be given in* 1905-1906.

13. OLD AND MIDDLE FRENCH—A reading course in Old French verse and prose with the emphasis on the philological aspect of the subject. La Chanson de Roland will be read entire, and Clédat's *Chrestomathie* in part. The development of the language from Latin to Modern French is studied with the reading by the aid of works of reference in the library, while in addition the course gives a general idea of the beauty and richness of Old French literature. A few lectures will be given on the life and ideas of the Middle Ages. Course 13 may be continued through the second semester in lieu of Course 14, if the class so prefers. Professor VAN STEENDEREN or Assistant Professor BUSH.

First semester; Tu., Th., at 9:00.

14. A COURSE IN FRENCH LYRICS—A lecture and reading course in French poetry. The lectures outline the history and bibliography of French poetry, define its fundamental characteristics and beauty, and aim to give a clear idea of the technique of French verse. The class reads Massón's *La Lyre française* and other selections which will be supplied by the library. Professor VAN STEENDEREN or Assistant Professor BUSH.

Second semester; Tu., Th., at 9:00.

15. SEMINAR IN MOLIERE—For the study of the essential facts relating to Molière's life and works. Professor VAN STEENDEREN.

First semester; Tu., Th., at 11:00.

16. SEMINAR IN VICTOR HUGO—For the study of Hugo's dramas, novels and poems. Courses 15 and 16 are to be preceded or accompanied by 9 (*10*) or 11 (*12*), or their equivalent. Professor VAN STEENDEREN.

Second semester; Tu., Th., at 11:00.

For special (teachers') certificates see the regulations pertaining to them. The courses required are 1, *(2)* or 3, *(4)*; 5, *(6)*; 7, *(8)*, and a choice of at least five hours a week for a year from the other courses.

SPANISH LANGUAGE.

1. First Year Course—This course gives a fairly good reading knowledge of the Spanish language, sufficient for practical business purposes. The student is expected to acquire a thorough knowledge of the main elements of Spanish grammar, and some ability in writing Spanish, but the course concerns itself principally with the reading. Edgren's *Spanish Grammar;* Galdos' *Marianela.* Professor van Steenderen.

First semester; Mon., Wed., Fri.

2. Continuation of Course 1. Galdos' *Dona Perfecta;* Moratin's *El si de las niñas.* Professor van Steenderen.

Second semester; Mon., Wed., Fri.

ITALIAN LANGUAGE.

1. First Year Course—This course aims as far as possible to give a good reading knowledge of the Italian language, combined with some knowledge of the literature. During the first half year Grandgent's *Italian Grammar* will be studied, and the reading will consist of some of the shorter works of modern novelists. Assistant Professor Bush.

First semester; Mon., Wed., Fri., at 9:00.

2. Continuation of Course 1. Scartazzini: *La Divina Comedia di Dante Alighieri,* in part. Lectures on Dante's work, his life and his times, serve as an introduction to the reading. Parts of the poems not studied in class are read in translation in order to give an idea of the poem as a whole. Assistant Professor Bush.

Second semester; Mon., Wed., Fri., at 9:00.

The courses in Spanish and Italian will be given in alternate years. Italian will be offered in 1905-1906.

GERMAN LANGUAGE AND LITERATURE.

Professor Wilson; Assistant Professors Sturm and Eastman, Mr. Wiehr, and Miss Haan.

In the instruction in the German language the first year is spent in laying a broad foundation for the future work.

At the beginning of the second year it is expected that students will be able to read the literature with some degree of appreciation, and from this time on the ability to understand and to appreciate the great masterpieces of German literature is the main object in view; at the same time however, the origin and history of words and the relation that the German language bears to the English tongue, are studied and explained. Sight translation, translating at hearing, writing from dictation, and conversation as means to a proper *Sprachgefühl*, form a part of the work.

Courses 1 (*2*), 3 (*4*), 5 (*6*), 7 (*8*), represent first year work, second year work, third year work, and fourth year work, respectively, and must be taken in the order of the numerals. Courses 9 to 24 are advanced courses, and may be taken in accordance with the regulations stated later.

All courses in German are offered every year except as otherwise indicated. Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Students are invited to consult with the instructors in arranging their work. Graduate students of German will find it to their special advantage to combine with their work some of the courses offered in the Scandinavian and English departments.

The German library is particularly rich in history of German literature, the history of the German language, Goethe literature, Middle High German, Old High German, and possesses complete bound sets of the most important philological periodicals. It is conveniently arranged in the German seminar room, No. 103 in the Hall of Liberal Arts, adjoining the other rooms of the department.

A. COURSES FOR UNDERGRADUATES.

1 (*2*). GRAMMAR AND READING—*German Grammar*, with constant practice in writing German. The reading consists of easy plays and tales. These courses represent first year work. Seven sections. Assistant Professors STURM and EASTMAN; Mr. WIEHR, and Miss HAAN.

Throughout the year; five times a week.

3 (*4*). LESSING, SCHILLER, GOETHE, AND FREYTAG—Selections from the works of the authors named, with

composition. Courses 3 and 4 represent second year work. Four sections. Professor WILSON, and Assistant Professors STURM, and EASTMAN.

Throughout the year; Mon., Wed., Fri.

5. THE GERMAN NOVEL—Some such work as Scheffel's *Ekkehard*, or Freytag's *Soll und Haben*, is read and discussed as a piece of literary art. There is an inquiry into the nature of the German novel, with assigned reading and reports on the development of the novel in Germany. Course 5 represents third year work. Professor WILSON.

First semester; Mon., Wed., Fri., at 11:00.

6. GERMAN LYRICS—This course is intended to give a general idea of the historical development of the German lyric from the sixteenth century to the present. There are lectures on German verse with special reference to the lyric poets. Buchheim's *Deutsche Lyrik*, or von Klenze's *Deutsche Gedichte*, is read by the class. Course 6 represents third year work. Professor WILSON.

Second semester; Mon., Wed., Fri., at 11:00.

7. FAUST—Goethe's *Faust, Parts I and II*. The main object of this course is to help the student to the enjoyment of *Faust* as poetry. Careful attention is given to its artistic character as a piece of literature possessing unity. Course 7 represents fourth year work. Professor WILSON.

First semester; Tu., Th., at 11:00.

8. HISTORY OF GERMAN LITERATURE—This course gives a general view of the development of German literature from the earliest times to the present, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Francke's *History of German Literature as Determined by Social Forces*, or Robertson's *History of German Literature*, is used as guide, but this is supplemented by reports on assigned reading by the students and by lectures by the instructor. Course 8 represents fourth year work. A course in Heine's *Prose* may be substituted for course 8. Professor WILSON.

Second semester; Tu., Th., at 11:00.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

9. GERMAN SEMINAR—For the study and discussion of the works of special periods, of literary tendencies, or of other special subjects in the history of German literature. The nature of the work is indicated by the topics that have been studied in previous years, some of which are Goethe's Youth; Goethe's Period of Classical Sympathies; Literary Cooperation of Goethe and Schiller; Goethe's Life and Works; Lessing's Life and Works; Lessing's Attitude toward the ancient Classics; Schiller's *Wallenstein;* Heine's Life and Works. Each member of the Seminar undertakes, under the personal direction of the instructor, the examination of some special phase of the general subject, and makes regular reports upon the results obtained. As the subject varies from year to year, students may elect the course in succession without duplication. Professor WILSON.

First semester; Tu., Th., at 9:00.

10. GERMAN SEMINAR—A continuation of course 9. The work is conducted in the same manner, but a new subject may be taken up. Professor WILSON.

Second semester; Tu., Th., at 9:00.

11. MIDDLE HIGH GERMAN — Bachmann's *Mittelhochdeutsches Lesebuch*, and Paul's *Mittelhochdeutsche Grammatik*. Includes a rapid survey of Middle High German forms, a comparative study of Middle High German and New High German syntax, and yields incidentally through translation into New High German excellent practice in composition. The reading of this semester is largely epic poetry, and is represented by selections from the *Nibelungenlied, Gudrun, Rosengarten, Reinhart Fuchs, Alexanderlied*, and from Hartmann von Aue, Wolfram von Eschenbach, and Gottfried von Strassburg. See course 22 in Scandinavian. Professor WILSON.

First semester; Tu., Th., at 10:00.

12. MIDDLE HIGH GERMAN—Course 11 is a prerequisite. The reading consists of lyric and didactic poetry and of prose. The larger part of the time, however, is devoted to

the lyrics of Walther von der Vogelweide. Professor WILSON.

Second semester; Tu., Th., at 10:00.

13. OLD HIGH GERMAN PROSE—Primarily for advanced and graduate students. Braune's *Althochdeutsches Lesebuch* and *Abriss der althochdeutschen Grammatik* are used. Admission only on consultation with the instructor. Assistant Professor EASTMAN.

First semester; twice a week; time to be arranged.

Courses 13 *and* 14 *alternate with courses* 15 *and* 16, *and were given in the year* 1904-1905, *and may be expected again in the year* 1906-1907.

14. OLD HIGH GERMAN POETRY—Course 13 is a prerequisite. Assistant Professor EASTMAN.

Second semester; twice a week; time to be arranged.

15. OLD LOW GERMAN (Old Saxon)—Introduction to Old Saxon grammar with reading in the *Heliand* and the *Genesis* fragment. Holthausen's *Altsaechsisches Elementarbuch* and Behaghel's edition of the *Heliand* and the *Genesis*. Admission only on consultation with the instructor. Assistant Professor EASTMAN.

First semester; two hours a week.

Course 15 *was given in the first semester of* 1903-1904, *and may be expected again in* 1905-1906.

16. HISTORY OF THE GERMAN LANGUAGE—Primarily for advanced and graduate students. Prerequisite, one semester's work in any of the earlier periods of any of the Germanic languages. Admission only on consultation with the instructor. Assistant Professor EASTMAN.

Second semester; two hours a week.

Course 16 *was given in the second semester of* 1903-1904, *and may be expected again in* 1905-1906.

17. THE GERMAN ROMANTIC MOVEMENT—Opened with lectures on the general subject, and then follow lectures on the life and earlier works of Tieck, with assigned readings to each student who reports to the class an outline of the ground covered and the results of his study. The works of the Schlegels are taken up in the same manner. Novalis's *Heinrich von Ofterdingen*, *Hymnen an die Nacht*, and *Geistliche Lieder* are read and discussed. After this there

are assigned readings in the works of Brentano, Arnim, Kleist, Eichendorff, and Hoffmann. Assistant Professor STURM.

First semester; two hours a week; time to be arranged.

Course 17 *was given in the year* 1903-1904, *and may be expected again in* 1905-1906.

18. THE GERMAN ROMANTIC MOVEMENT—A continuation of course 17. Assistant Professor STURM.

Second semester; two hours a week.

19. PHONETICS—The principles of sound-formation and sound-change, followed by a detailed study of the phonology of German. This part of the work is based upon Hempl's *German Orthography and Phonology*. Designed to furnish a foundation for work in philology and a practical preparation for those who intend to teach. Assistant Professor STURM.

First semester; two hours a week; time to be arranged.

This course is offered in alternate years, and was given in the year 1904-1905 *and may be expected again in* 1906-1907.

20. GERMAN SYNTAX—The syntax of the New High German is studied from the historical and genetic point of view. The works of Erdmann, Behaghel, and Wunderlich are used. Assistant Professor STURM.

Second semester; two hours a week; time to be arranged.

The course is offered in alternate years, and was given in the year 1904-1905, *and may be expected in* 1906-1907.

21. GERMAN LIFE.—A course of lectures in German on German life, institutions, and customs. Mr. WIEHR.

First semester; Tu., at 1:30.

22. GERMAN LIFE—A continuation of course 21. Mr. WIEHR.

Second semester; Tu., at 1:30.

23. DEUTSCHER AUFSATZ—This is a course in advanced German composition. Mr. WIEHR.

First semester; twice a week.

24. DEUTSCHER AUFSATZ—A continuation of course 23. Mr. WIEHR.

Second semester; twice a week.

SPECIAL CERTIFICATES IN GERMAN

Special certificates of scholarship in German are granted on or after graduation on conditions set forth elsewhere in this catalogue. The *minimum* amount of work required for admission to examination for such a certificate is represented by courses 1 to 6, and four courses chosen from 7 to 20.

SCANDINAVIAN LANGUAGES AND LITERATURES

ACTING PROFESSOR FLOM.

In the department of Scandinavian the aim is to give equal attention to the literature and philology of the Northern languages. The courses will be given strictly as outlined below, though if there should be sufficient demand for some course not scheduled, a class may be formed. Course 1 is intended for those students who have no previous knowledge of Scandinavian. It is expected that this course will give the student such a thorough reading knowledge of modern Norse as shall enable him to read the modern literature with facility. Courses are offered to suit the needs of students of Scandinavian parentage who have a fair knowledge of a Scandinavian language, but wish to pursue in class a more systematic study of the literature. For such students three courses are offered: one in modern Norse literature 7 (*8*), one in Danish literature 5 (*6*), and one in Swedish literature 3 (*4*). The last will be preceded by a short course in Swedish grammar. Course 1 (*2*) under A is an elementary course and may precede more advanced work in Scandinavian languages or literature, although the study of Scandinavian literature may as well begin with course 3 (*4*), while course 9 (*10*) is offered as introductory to Scandinavian philology. Course 9 (*10*) is recommended especially to students in German and English philology. Such students who wish to take Scandinavian as a minor for a higher degree should combine course 9 (*10*) with 1 (*2*), or 3 (*4*), if the degree is M. A. If the degree is Ph. D. a third course such as 11 (*12*) should be taken in the following year. To students in literature who wish to take Scan-

dinavian literature as a minor for a higher degree 3 (*4*), and 7 (*8*) are recommended, although either may be combined with 1 (*2*). Where Scandinavian is chosen as a major for a higher degree the amount and kind of work will be fixed in each individual case by the head of the department.

A. ELEMENTARY COURSE.

1 (*2*). NORSE—Principles of grammar, pronunciation, and the reading of easy prose with composition exercises based on the selections read will form the first semester's work. Groth's *Dano-Norwegian Grammar*, Björnson's *Smaastykker* and Olson's *Norwegian Reader* are used. In the second semester the class will read Björnson's *Synnöve Solbakken* and Ibsen's *En Folkefiende*.

As Norwegian grammar is comparatively simple this course should give the student a good reading knowledge of the language.

Open to students as an elective in the Bachelor of Arts course.

Throughout the year; four times a week. Hours may be arranged to suit those concerned.

B. COURSES IN LITERATURE.

3 (*4*). SWEDISH LITERATURE, with a brief introductory course in Swedish grammar in which Sundén's or Poestion's grammar is used. Study of the Gustavian period 1772-1809, and the period of Tegnér 1809-1846; the Classicists, the Romantic school, the Gothic school, Tegnér and his contemporaries. *Frithiofs Saga* as Tegnér's chief work is carefully studied. Runeberg's *Fänrik Ståls Sägner* will be read in part. The class study is supplemented by a course of twelve lectures on the history of Swedish literature. In 1904-1905 when the course covered the XIXth century, the class read Selma Lagerlöf's *Jerusalem I, I Dalarne*.

Twice a week.

As the Swedish romantic movement stands in close relation to the romantic movement in Germany, course 17 in the German department might very well be taken in conjunction with the above course, or the first semester of the

above course may serve as introductory to courses 17-18 in German. See also course 49 in the English department, and French 18.

5 (6). DANISH LITERATURE.

Not given in 1905-1906.

class reading of masterpieces. First semester: Björnson's *Arne*, and *En Fallit*. Collateral reading: Kielland's *Skipper Worse*. Second semester: Ibsen's *Brand*, *Peer Gynt*, and *Samfundets Stötter*. Collateral: *Kongsemnerne*, and Boyeson's *A Commentary on the Writings of Henrik Ibsen*.

Twice a week; hours to be arranged.

In place of this course was given in 1904-1905 a course in Ibsen's Social Dramas. The following were read and interpreted: *Et Dukkehjem*, *En Folkefiende*, and *John Gabriel Borkman*. Some attention was given to Ibsen's dramatic method.

C. COURSES IN PHILOLOGY.

9 (*10*). OLD NORSE AND OLD ICELANDIC—Elementary course. Lectures and recitations. The aim of this course is to equip the student with a good vocabulary, and to acquaint him with the peculiarities of Old Norse phonology, inflection, and syntax, so as to enable him to read the old prose literature and to use the language for the purpose of comparative study within the Germanic group of languages. Lectures on the relation of Old Norse to East and West Germanic. Phonological exercises in Old Norse, taken up comparatively, will form a part of the work. Holthausen's *Lehrbuch der Altisländischen Sprache* (*Elementarbuch* and *Lesebuch*) will be used, and Streitberg's *Urgermanische Grammatik* or Noreen's *Abriss der Urgermanischen Lautlehre*.

Throughout the year; Mon., Wed., at 10:00.

11 (*12*). OLD NORSE. THE ELDER EDDA — Advanced course. May be taken only by those who have had course 9 (*10*) or an equivalent. In the first semester the following mythological lays have usually been studied: *Þrymskviða*, *Hymiskviða*, *Alvissmol*, *Hárbarðsljóf*, *Loksasenna*, *Skirnismol*, *Grimnismol*, *Vafthruðnismol*, *Baldrs*, *Draumar*,

Volospa, and *Hovamol*. In the second semester have been read the *Völundarkviòa* and the heroic lays of the Sigurd-Niflunga cycle, the lays of the Nibelungen saga. The course presupposes some familiarity with the Nibelungen epic. The edition used hereafter will be that of Detter and Heinzel, *Saemundar Edda*, Leipzig, 1903, together with Gering's *Vollständiges Wörterbuch zu den Liedern der Edda*.

Two hours a week; Tu., Th., at 3:30.

This course was given in 1904-1905 and will be given again in 1906-1907.

21. NORSE MYTHOLOGY—Lectures. An outline of the religious belief of the Norsemen in pre-Christian times, with a study of the origin and transmission of the principal myths.

Twice a week; second semester.

22. THE NIBELUNGEN SAGA IN NORSE-ICELANDIC SOURCES.

Twice a week; second semester.

Not given in 1905-1906.

14. HISTORY OF THE SCANDINAVIAN LANGUAGES—Lectures with occasional recitations. The course will deal especially with Dano Norwegian and Swedish. The relation of Old Northern to East and West Germanic; the basis for the division into East and West Scandinavian; later phonological changes in Norse, Danish and Swedish; the loss of grammatical forms resulting in the change of these languages from highly inflexional to analytic languages; the influences that have brought about the present gender categories in Danish and Swedish; change in gender of nouns; development in the meaning of words; the influence of the German language on the vocabulary; other foreign elements; classification of the modern dialects. Prerequisite, one Old Germanic dialect.

Twice a week; first semester.

Not given in 1905-1906.

17 (*18*). OLD SWEDISH—Lectures and exercises. This course will begin with lectures on the relation of East to West Scandinavian and on early dialectal differentiation in Old Danish. Noreen's *Altschwedische Grammatik* and

Altschwedisches Lesebuch. Prerequisite; one Old Germanic dialect or a knowledge of Swedish in the modern period.

Throughout the year; two hours a week.

Not given in 1905-1906.

19 (*20*). SCANDINAVIAN INFLUENCE ON ENGLISH—Introductory lectures on early Norse and Danish settlements will be followed by a study of the characteristic of Old Northumbrian as differing from West Saxon. Methods of investigation, loan word tests, Scandinavian elements in Old and Middle English and Modern English dialects. The dialectal provenience of the loan-words. The spring quarter will be given in part to the study of English influence on Scandinavian, especially Old Norse, Modern Norse, and Danish. Prerequisite; a knowledge of German, Old Norse, and Old English.

Second semester; two hours a week.

Not given in 1905-1906.

In addition to above courses any of the courses intended primarily for undergraduates may be taken by graduate students as part of the requirements for a degree.

The following Norse, Swedish, Danish and Icelandic publications are accessible to students in the University or in private libraries: *Arkiv för Nordisk Filologi*, *Annaler* and *Aarböger for nordisk Oldkyndighed og Historie* (*1836-1904*), the publications of the *Sandfund til Udgivelse of gammel nordisk Literatur*, *Isleninga Sögur*, *Dania*, *Nordisk Tidskrift* (*Stockholm*) *Nyt Historisk Tidskrift* (*Kristiana*), *Norvegia*, *Samtiden* and *Eimreiðin*.

ENGLISH.

PROFESSOR ANSLEY; DR. FLOM, MR. BREWER, MR. SLOAN, MR. HUNT, MISS CHAWNER.

Unless by special arrangement at the beginning, credit in any course is given only upon satisfactory completion of that course. This rule applies to courses which continue throughout the year as well as to semester courses.

Special certificates of scholarship in English are granted upon conditions explained under the heading "Teachers' Certificates." Information as to acceptable combinations of courses will be given upon request.

(1). COMPOSITION AND RHETORIC.

1 (2). CONSTRUCTIVE RHETORIC—Practice in the construction of effective English prose, with observation of the principles involved. Lectures, criticism of written exercises and studies in the work of representative modern writers. Required of all first year students except in engineering courses. Five divisions begin with the first semester, and one division begins with the second semester. Mr. HUNT and Miss CHAWNER.

Throughout the year; two hours a week.

101. (*102*). COMPOSITION—A course in the theory of English composition, with practice in descriptive and expository writing. For first year students in engineering.

Throughout the year; two hours a week.

121 (*122*). COMPOSITION—Practice in descriptive and expository writing. For second year students in engineering.

Throughout the year; one hour a week.

131 (*132*). COMPOSITION—Practice in descriptive and expository writing. For third year students in engineering.

Throughout the year; one hour a week.

141 (*142*). COMPOSITION—Practice in descriptive and expository writing. For fourth year students in engineering.

Throughout the year; one hour a week.

3 (*4*). THE ESSAY—Practice in expository writing and in criticism of essays. Open to students who have completed course 1. Mr. SLOAN.

Throughout the year; two hours a week.

7 (*8*). THE SHORT STORY—A course in narrative and descriptive prose and the art of modern prose fiction, the short story being the form selected for discussion and practice. Admission by consent of the instructor. Mr. HUNT.

Throughout the year; two hours a week.

11 (12). POETICS.

Not offered in 1905-1906.

15. THE NEWSPAPER—Lectures upon some details in the work of newspaper making, with practice in writing for the press. What news is, and how it should be put in form for publication; the writing of editorials; the review

of books and the drama; proof reading; the business department. Mr. BREWER.

First semester; two hours a week.

16. THE BOOK—Studies in the making and the care of books. Manuscripts and early libraries; the invention of movable types; the work of the best printers, from Gutenberg to William Morris; modern methods in printing and publishing. Mr. BREWER.

Second semester; two hours a week.

(2). LITERATURE.

21 (22). ENGLISH LITERATURE—The development of English literature from Chaucer to Browning. Typical works of representative writers are studied as carefully as time permits; and an attempt is made to recognize the more important phases in the evolution of English verse and prose. The work of students in this course is commonly presented in writing, and attention is given to form as well as substance. Required of all second year students except in engineering courses. Five divisions. Mr. SLOAN; Mr. HUNT; Miss CHAWNER.

Throughout the year; three hours a week.

23 (24). AMERICAN LITERATURE.

Not offered in 1905-1906.

29. THE DRAMA—The beginnings of English dramatic literature; miracle plays, moralities, interludes, and early comedy and tragedy. Miss CHAWNER.

First semester; two hours a week.

31 (32). SHAKESPEARE—Some elements of literary art exemplified in the plays of Shakespeare. Three representative tragedies are studied in detail. Professor ANSLEY.

Throughout the year; three hours a week.

33 (34). SEMINARY IN SHAKESPEARE—Studies in the plays and in the history of Shakespearean criticism. For students who have completed course 31 (32). Professor ANSLEY.

Throughout the year; two hours a week.

38. ENGLISH AND SCOTTISH BALLADS—Lectures on the nature, the history, and the influence of ballad poetry, with study of selected ballads.

Not offered in 1905-1906.

47. THE NOVEL—Studies in the English novelists of the eighteenth century: Defoe, Richardson, Fielding, Smollett, and others. This course should be preceded by courses 1 (*2*) and 21 (*22*). Mr. SLOAN.

First semester; two hours a week.

48. THE NOVEL—Studies in the English novelists of the nineteenth century: Scott, Dickens, Thackeray, George Eliot, and others. This course should be preceded by courses 1 (*2*) and 21 (*22*). Mr. SLOAN.

Second semester; two hours a week.

50. THE ROMANTIC MOVEMENT—A study of the origins, the development, and the influence of the romantic movement in English literature of the eighteenth and nineteenth centuries. Miss CHAWNER.

Second semester; two hours a week.

61 (*62*). CARLYLE, RUSKIN AND MORRIS—Studies in the literary work of these writers and in their influence upon industry, art and education. Professor ANSLEY.

Throughout the year; two hours a week.

69 (*70*). LITERARY LANDMARKS OF ENGLAND—Occasional public lectures upon the Canterbury Pilgrimage, Ely Cathedral, Stratford-on-Avon, The Scott Country, The English Lakes, Westminster Abbey, and kindred subjects of interest to students of literature. All these lectures are fully illustrated by the stereopticon. Dr. GILCHRIST.

(3). PHILOLOGY.

73. HISTORICAL ENGLISH GRAMMAR—Lectures, reports and discussions. The main topics in the history of the English language are considered; the Early English dialects, characteristics of each, the Midland dialect and its relation to the later standard speech; changes in pronunciation and inflections; sources and history of the vocabulary; character of native and foreign elements; development in the meaning of words; grammatical gender. Dr. FLOM.

First semester; two hours a week.

75 (*76*). MIDDLE ENGLISH—An introduction to Middle English with the reading of a part of the *Ormulum* and

Langland's *Piers the Plowman*, followed by a study of Chaucer's *Canterbury Tales*. Dr. FLOM.

Throughout the year; two hours a week.

79 (*80*). OLD ENGLISH—An introduction to Old English with study of representative prose and poetry. Bright's *Anglo-Saxon Reader* and Cook's Sievers's *Grammar of Old English* are used. Dr. FLOM.

Throughout the year; three hours a week.

Not offered in 1905-1906.

81 (*82*). ADVANCED OLD ENGLISH—In this course *Beowulf* is read and the chief problems in *Beowulf* criticism are considered; the growth of the epic and its present form; its historical and mythical elements; its original home, etc. Dr. FLOM.

Throughout the year; two hours a week.

87 (*88*). GOTHIC—An introduction to the Gothic language. This is a course in the study of Gothic phonology, morphology, and syntax, with constant reference to other Germanic dialects. The following books are used: Wright, *A Primer of the Gothic Language*, second edition, Oxford, 1900, or Streitberg, *Gotisches Elementarbuch*, Heidelberg, 1897; Stamm-Wrede, *Ulylas*, 10 Aufl, Paderborn, 1903; Uhlenbeck, *Etymologisches Worterbuch der gotischen Sprache*, 2 Aufl, Amsterdam, 1900; Streitberg, *Urgermanische Grammatik*, Heidelberg, 1900. This course is introductory to the study of Germanic philology. Open to students who have a knowledge of Old English or of any other early Germanic dialect. Dr. FLOM.

Throughout the year; Tu., Th., at 10:00.

PUBLIC SPEAKING

PROFESSOR GORDON; MISS EVERTS.

The courses in this subject naturally divide themselves into two lines of work; one line looking to debate or oratory as an end, and the other to the interpretation of literature as an end. Courses 1 (*2*), 3 (*4*), 18, and 20 are fundamental to both lines of work. No student who has not taken or is not taking one of these courses or its equivalent will be admitted to advanced courses 11 (*12*) and 13 (*14*).

All other courses are open to students who have had no previous training in public speaking. Students making a special study of debate are advised to take a fundamental course and courses 7 (*8*), and 18. Students making a special study of oratory are advised to take a fundamental course and courses 5 (*6*), 9, and 18. Courses 1 (*2*), 3 (*4*), and 20 are designed for students who wish to study the vocal interpretation of literature. Course 15 (*16*) is designed for students desiring to pursue special lines of study upon approved topics in debate and oratory. Freshmen as a rule are not allowed to take courses in public speaking. Under certain conditions, however, freshmen may obtain such work and are advised to consult the instructors before registering. For sophomores election is unrestricted except by required work, three hours in English, and the sixteen hours limit of work. Students in colleges other than the College of Liberal Arts must have permission of the chair of public speaking in order to obtain work in this subject.

A. ELEMENTARY COURSE.

1. PUBLIC SPEAKING AS AN ART—This course is general, seeking to prepare the student for the special forms of public speaking. Each student is examined with reference to his individual needs and an effort is made to adapt the work to such needs. Miss EVERTS.

First semester; four hours a week.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

3. (*4*). LITERARY INTERPRETATION—The lyric, epic, dramatic, and oratoric forms are studied in their relation to public speaking.

Throughout the year; two hours a week.

5 (*6*). PUBLIC ADDRESS—The preparation and presentation of an argument as to preliminary reading, structure, evidence, briefing, style, and delivery are carefully developed. The forms of oratory are studied, and one or more illustrated by the work of the student. Professor GORDON.

Throughout the year; three hours a week.

7 (*8*). DEBATE—This course seeks to develop the hand-

ling of refutation in the preparation of briefs and forensics and actual debate. Professor GORDON.

Throughout the year; two hours a week.

[*Courses 5 (6), and 7 (8), are the same in content during the first semester. Those students who have taken either course alone can schedule for the latter half of the other in the second semester.*]

9. ORATORY—Takes up the problems of the audience, the style and atmosphere of the address, and the function of persuasion in speaking. Students wishing to enter for the Northern Oratorical League contest or the Hamilton Club Prize Oration contest can prepare their orations in connection with the work in this course. Professor GORDON.

First semester; two hours a week.

NOTE: This course is recommended to students who are taking Greek, 5 (*6.*)

11 (*12*). INTERPRETATION OF THE DRAMA—This course takes up the value of imagination and dramatic instinct in the interpretation of the drama and seeks to develop the same by a study of the play. Miss EVERTS.

Throughout one year; one hour a week.

13 (*14*). SHAKESPEARE—A play is studied from the standpoint of its presentation with practical work by the student. Miss EVERTS.

Omitted in 1905-1906.

Throughout the year; two hours a week.

15 (*16*). DEBATE AND ORATORY—This course is designed for students desiring special work on the preliminary and inter-collegiate debates and the preliminary and oratorical contests for the Northern Oratorical League and Hamilton Club prize oration contest. Students may schedule for this course at the opening of the first or second semester. Professor GORDON.

First or second semester; two hours a week.

18. EXTEMPORE SPEAKING—Practical work is offered in this course looking to the development of the forms of discourse in actual speaking. This course is open only to men. Professor GORDON.

Second semester; two hours a week.

20. VOCAL EXPRESSION—Practical work in literary interpretation is offered in this course. It is open only to women. Miss EVERTS.

Second semester; two hours a week.

21 (*22*). BROWNING—In this course a study is made of the monologues of Robert Browning. Miss EVERTS.

Throughout the year; two hours a week.

C. COURSES PRIMARILY FOR GRADUATES.

101 (*102*). HISTORY OF ORATORY—A course designed for special research work by graduate students. Professor GORDON.

INTER-COLLEGIATE ORATORY AND DEBATE.

The Northern Oratorical League and the Hamilton Club of Chicago offer each year a first prize of one hundred dollars and a second of fifty. The former is endowed by Mr. Frank O. Lowden, an alumnus of the University. Iowa is entitled to one representative in each contest. Preliminary contests are held to determine who these persons shall be. Five weeks before the close of the first semester the preliminary for the Northern Oratorical League takes place. The preliminary for the Hamilton Club contest comes upon the last Friday in May. The orations for the latter contest must be handed in by the first Saturday in May. Four of the winners of the home Northern Oratorical contests, Messrs. Otto Brackett, E. K. Brown, E. J. Shannahan and H. G. Walker have established a twenty-dollar gold prize in oratory open to freshmen in all colleges. The orations for this contest must be handed in by the last Saturday in March.

The opportunities in debate are equally great with those in oratory. The debating league has permanent debates with Wisconsin and Nebraska. The preliminary contests for these debates are spirited, as many young men seek the coveted places.

The work in public speaking has been especially arranged to accommodate students taking up such work as the above. Credit may be had for the work when the student properly schedules. [See courses 5 (*6*), 7 (*8*), 9, and 15 (*16*).]

HISTORY.

PROFESSOR WILCOX; PROFESSOR PLUM.

A. ELEMENTARY COURSES.

1. HISTORY OF GREECE—Text-book, lectures and assignments. A general course in Greek history, intended for first-year students. Special attention is paid to training in methods of historical study. After the holiday recess, the history of Rome will be taken up as preliminary to course 2. Professor PLUM.

First semester; four hours a week.

Course 1 will also be offered during the second semester.

2. HISTORY OF ROME—Text-book, lectures, and assignments. An outline of political and constitutional history down to the crowning of Charles the Great; a study of the growth and organization of the republic, the development and decline of the Roman empire, and its transformation into the empire of the Germans. A continuation of course 1. Professor PLUM.

Second semester; four hours a week.

3. HISTORY OF FRANCE—Text-book and lectures. This course is an outline history of France to 1789. It consists of a study of the monarchical institutions of France, the relation of France to the papal system and to the growth of general European civilization. The course is primarily designed for sophomores. Professor PLUM.

First semester; two hours a week.

4. HISTORY OF GERMANY—Text-book and lectures. The topics under discussion in this course are the organization of the German kingdom and the Holy Roman Empire, the struggle with the Church, the relation to the Protestant Revolution and the development under the House of Hapsburg. This course also is designed for sophomores. Professor PLUM.

Second semester; two hours a week.

5. THE HISTORY OF EARLY AND MEDIAEVAL ENGLAND—This course consists of topical analyses, special assignments, and lectures. It is an outline study of English history from the beginning of English national life to the close of the War of the Roses. The central theme is the development of English political institutions. The social, economic, literary, and religious life of the people is studied in its relation to the political development of England. Professor PLUM.

First semester; three hours a week.

6. THE HISTORY OF ENGLAND UNDER THE TUDORS AND STUARTS—Topical analyses and lectures. This course covers the history of England from the end of the fifteenth century to the opening of the eighteenth. Special attention is given to the outworking of those complex forces of national life which have made England the foremost body politic in the modern states-system of Europe. Professor PLUM.

Second semester; three hours a week.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

7. HISTORICAL RESEARCH AND CRITICISM—A brief course in the methods of historical study and investigation, consisting of (1) lectures and discussions on the principles of historical criticism; (2) practical exercises in the examination of typical problems, the collection and sifting of historical materials, the preparation of select bibliographies and of finished papers on historical subjects. Professor PLUM.

First semester; two hours a week.

8. THE RENAISSANCE AND THE PROTESTANT REVOLUTION—This course includes a summary of the Renaissance movement and an analysis of the factors of the Protestant Revolution. Course 4 is recommended as a preliminary to this course. Professor PLUM.

Second semester; two hours a week.

9. THE DEVELOPMENT OF THE CONSTITUTION OF THE UNITED STATES—This course is a series of lectures to ad-

vanced students. The lectures aim to present the various steps which led to the establishment of the Constitution of the United States in 1789. The struggle between the states of Europe for domination in America, the reasons for the English victory, the growth of the movement for independence and the working out of the problem of union, constitute the subject matter under consideration. Professor WILCOX.

First semester; three hours a week.

10. THE HISTORY OF THE UNITED STATES UNDER THE CONSTITUTION—This course consists of lectures on the development of national political life under the Constitution from its establishment in 1789 to the compromise of 1850. Professor WILCOX.

11. THE EASTERN QUESTION—This course is in part a study in the contemporary politics of Europe and the eastern world. The history of the eastern question, the eastern question in Europe, in Asia, and in Africa, the relations of the six great powers to the eastern question, and the possible solutions of the eastern question, are the general lines along which the lectures are developed. Professor WILCOX.

First semester; two hours a week.

12. SECESSION AND RECONSTRUCTION—The twenty years of United States history from the great compromise of 1850 to the close of the period of reconstruction in 1870. The course is intended for advanced students. This is a course in continuation of courses 9 and 10. Professor WILCOX.

Second semester; two hours a week.

13. THE NAPOLEONIC ERA IN EUROPE—From 1799 when the Directory was overthrown, to 1815, when Napoleon met his final defeat at Waterloo, the history of Europe is centered in France, and France is centered in Napoleon Bonaparte. The attempt is made to discuss the salient features of this period in a course of lectures to advanced students. It is not merely a chapter in the history of France but a survey of general European development during the fifteen years of Napoleon's power. Professor WILCOX.

First semester; two hours a week.

14. EUROPE IN THE NINETEENTH CENTURY—This is an outline study, presented in the form of lectures, of the political history of Europe from the congress of Vienna in 1815 to the final steps in the consolidation of Italy and Germany, at the close of the Franco-Prussian war. This course is intended as a sequel to course 13. Professor WILCOX.

Second semester; two hours a week.

C. COURSES OPEN TO GRADUATES ONLY.

15 (*16*). SEMINAR IN UNITED STATES HISTORY—This work is intended for those graduate students who wish to emphasize American history. The work consists of special individual research on selected topics in American history. The aim is to acquire a more intimate acquaintance with the body of knowledge comprised in American history, to develop methods of independent research, and to become thoroughly acquainted with library sources. The results of the investigation are presented in reports to the seminar. Professor WILCOX.

Throughout the year; two hours a week.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH; DR. HORACK.

For undergraduate students the beginning courses offered in the department of political science are 1 and 2. Students who desire to elect but one year's work in this department are advised to schedule for these courses. Those who expect to pursue a more extended line of study in political and social science are advised to schedule for these courses in their second or sophomore year.

Courses 7 and 8 constitute a liberal introduction to the study of law, and are arranged for the combined college of liberal arts and law course.

UNDERGRADUATE COURSES.

1. AN INTRODUCTION TO POLITICAL SCIENCE—In the study of political and social science this course is fundamental, being a general introduction to the phenomena of

organized society among men. The scope of the lectures may be briefly indicated as follows: The early history of mankind, wherein evolution and the fundamental laws of human progress will be explained and their application to the development of social and political institutions clearly indicated; a general consideration of anthropology with reference to its bearings upon the study of the political and social institutions of the Indo-European peoples; the origin of government historically considered; the political institutions of the ancient Greeks, and a consideration of their political ideas and ideals; the political institutions of the Romans, and a consideration of their contributions to public law and jurisprudence; primitive Germanic institutions, especially the markgenossenschaft; and mediæval politics—feudalism and the Church and State. Professor SHAMBAUGH.

First semester; Mon., Wed., Fri., at 8:00.

Open to all students except freshmen.

2. MODERN GOVERNMENTS—Lectures on the governments of France, Germany, Prussia, Switzerland, Belgium, Australia, and England. Professor SHAMBAUGH.

Second semester; Mon., Wed., Fri., at 8:00.

Open to all students except freshmen.

3. PRINCIPLES OF AMERICAN GOVERNMENT—A study of the sources and early development of the principles of government in the United States. Herein our Anglo-Saxon inheritance, government in the colonies, growth toward independence and union, the establishment of the first state governments, and the beginnings of local government will be considered. The following documents will be studied and analyzed: The Magna Charta, the Act of Habeas Corpus, the Petition of Right, the Bill of Rights, Colonial Charters, Plans for Union, The Declaration of Independence, Articles of Confederation, the First State Constitutions, and the Constitution of the United States.

Lectures and collateral readings. An outline is prepared for the class in the study of Colonial Charters and First State Constitutions. Dr. HORACK.

First semester; Mon., Wed., Fri., at 11:00.

Open to juniors and seniors.

4. COMPARATIVE STATE LEGISLATION—A study of present problems. Herein particular attention will be given to the growth of trusts and corporations showing the diversity of provisions for their organization and control, as well as the causes tending toward greater uniformity of law embodied in federal legislation. State and federal statutes and decisions will be studied and compared. The course will be non-technical. Dr. HORACK.

Second semester; Mon., Wed., Fri., at 11:00.

Open to juniors and seniors.

5. POLITICAL PARTIES—This course will be divided into two parts: part one (9 weeks) will be devoted to the study of the political machinery of parties—caucuses, nominating conventions, committees, etc.—and to an examination of campaign literature — including platforms, political circulars, speeches, cartoons, etc. The second part (9 weeks) will be devoted to the study of the history of political parties since the adoption of the constitution and will include a consideration of the issues upon which parties are founded. Dr. HORACK.

First semester; Tu., Th., at 9:00.

6. MUNICIPAL GOVERNMENT—A study of the organization and administration of city governments. The problems of modern city life. The sphere and functions of municipal governments. Their relation to quasi-public works. Open to juniors and seniors. Dr. HORACK.

Second semester; Tu., Th., at 9:00.

7. JURISPRUDENCE—A study of the nature, definition, classification, and divisions of law. This course will include lectures on the history and fundamental principles of the civil law of Rome and the common law of England. The discussions will be largely non-technical. Recommended in the combined college of liberal arts and law course. Open to juniors and seniors. Professor SHAMBAUGH.

First semester; Mon., Wed., Fri., at 10:00.

8. CONSTITUTIONAL LAW—An introductory study of the nature, principles, and powers of government in the United States as reflected in written constitutions and in judicial interpretations. Leading cases in constitutional law will be read and discussed. Recommended in the combined col-

lege of liberal arts and law course. Open to juniors and seniors. Professor SHAMBAUGH.

Second semester; Mon., Wed., Fri., at 10:00.

9. AMERICAN POLITICAL THEORY—A study of American political ideas and ideals, wherein leading state papers will be analyzed, and the political theories of such representative American thinkers as William Penn, Thomas Paine, Washington, Hamilton, Jefferson, John Adams, Samuel Adams, Madison, Fisher Ames, Marshall, Monroe, Webster, Calhoun, Clay, Alexander Stephens, and Lincoln will be discussed and criticized. Open to juniors and seniors. Professor SHAMBAUGH.

First semester; Tu., Th., at 11:00.

10. AMERICAN POLITICAL THEORY—This will be a continuation of course 7. Open to juniors and seniors. Professor SHAMBAUGH.

Second semester; Tu., Th., at 11:00.

11 (*12*). POLITICAL SCIENCE CONFERENCE—A weekly conference for the discussion of contemporaneous political problems, current legislation, and current political literature. Professor SHAMBAUGH, and Dr. HORACK.

Friday afternoon, 2:30 to 4:30.

13. IOWA HISTORY AND POLITICS—A course of lectures on the history and politics of Iowa. Professor SHAMBAUGH.

First semester; Tu., Th., at 1:30.

14. GOVERNMENT OF COLONIES AND DEPENDENCIES — A study of the history and principles of the various systems of colonial government and administration, with special reference to American territories and dependencies, the phenomenon of "expansion," the causes of migration, the diversity in race characteristics, and the conditions necessary for local self-government. Open to juniors and seniors. Dr. HORACK.

Second semester; Tu., Th., at 8:00.

COURSES PRIMARILY FOR GRADUATES.

15. COMPARATIVE NATIONAL GOVERNMENTS—A comparison of the provisions of the constitutions of England, United States, France, Germany and Switzerland, from both a theoretical and a practical standpoint. Dr. HORACK.

First semester; two hours.

16. THEORIES OF SOVEREIGNTY—A general survey of political theories as to the origin, nature, and limitations of governmental authority in relation to the individual. It is the purpose of this course to show historically the development of ideas concerning the functions and powers of government. Dr. HORACK.

Second semester; two hours.

17. POLITICAL THEORY—In this course a system of pure political theory will be outlined and correlated with philosophy. Professor SHAMBAUGH.

First and second semesters; two hours.

18. ADMINISTRATIVE LAW—A comparative study of administrative law in France, Germany, England, and the United States. Professor SHAMBAUGH.

Second semester; two hours.

19. SEMINARY IN POLITICAL SCIENCE—In 1905-1906 selected subjects will be assigned for critical study and discussion. Professor SHAMBAUGH, and Dr. HORACK.

Throughout the year; two hours.

POLITICAL ECONOMY AND SOCIOLOGY.

PROFESSOR LOOS; PROFESSOR PATTERSON, DR. SCHAFFNER.

Students who look forward to special courses of study in the School of Political and Social Science are advised to elect the introductory course in economic theory and the course in economic history (political economy 1 and 2, or 5 and 6) in their sophomore year.

Courses 1 and 2, or 5 and 6, constitute the preferred general introductory course for all courses in this department. Courses 3, 4, 7, 8, and 12 may also be elected as initial courses in economics and for the courses in sociology, 15 to 26 inclusive, no specific previous course is required. On programmes any of the courses of this department may be cited as economics followed by the appropriate number; or 15 to 26 as sociology, and 3, 4, 11, 12, 27, to 36 as commerce.

A. ELEMENTARY COURSES.

1. INDUSTRIAL HISTORY—After an introductory study of primitive man and primitive civilization (*Starr's First Steps in Human Progress*) the course will occupy itself

mainly with the development of commerce and industry in Europe (Gibbins' *Industry in England*), and later with the industrial development of the United States (Wright's *Industrial Evolution of the United States*). DR. SCHAFFNER.

First semester; section A. (for sophomores), Mon., Wed., Fri., at 11:00.

Section B. (prescribed for freshmen in the course in commerce), Mon., Tu., Wed., Th., at 10:00.

2. INTRODUCTION TO ECONOMICS—An introduction to the leading principles of economic science. Designed for the general student and as a basis for more advanced studies. Dr. SCHAFFNER.

Second semester; Mon., Wed., Fri., at 11:00.

3. ECONOMIC AND COMMERCIAL GEOGRAPHY—The conditions which affect commercial and industrial development will first be considered, followed by a study of the commercial geography of the extractive and manufacturing industries. The effect of climate, rainfall, rivers, coast lines, soil, plant, and animal life, etc., will be noted and the production and distribution of the domestic and foreign products of agriculture, mining, forestry, fishing, and the principal articles of manufacture considered. Prescribed for sophomores in the commerce course. Professor PATTERSON.

First semester; Mon., Wed., and Fri., at 10:00.

4 A. RESOURCES OF THE UNITED STATES—Continuation of course 3, prescribed for sophomores in the commerce course. The position of the United States in reference to other nations will be considered, followed by a critical study of the resources of the several states. Federal reports will be freely used, and the various year books and trade journals consulted. Students will be required to consult these sources and determine for themselves the relative weight of the several industries in different states. Professor PATTERSON.

Second semester; Mon., Wed., Fri., at 10:00.

4 B. ECONOMICS AND COMMERCE—A special course prescribed for freshmen in the electrical, civil, and mechanical engineering courses, in which the extractive industries will be mainly considered, including a survey of climatic and

topographic conditions in their relations to the production and distribution of the raw materials of commerce; the materials themselves will be considered with reference to their sources and commercial importance. Professor PATTERSON.

Second semester; second quarter, daily. Time to be arranged.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES.

5. PRINCIPLES OF ECONOMICS—Fundamental economic concepts; the organization of industry; the distribution of wealth; the relation of the state to industrial action. Designed as a general survey of economic science for advanced students. Open to juniors, seniors, and professional students with or without a previous course in economics, and to sophomores who have taken high school economics. Professor Loos.

First semester; Mon., Wed., Fri., at 9:00.

6. ECONOMIC HISTORY—Outlines of economic history, with some notice of the history of economic theory, a study more especially of recent economic history with detailed analysis of the industrial revolution in its economic and social aspects. Special attention will be given to the development of the individualistic philosophy and to the later development of the organic conception of society, and its reaction on practical politics and legislation—the factory acts, trade-unionism and the trust problem. Designed to follow course 5 or 2, but it may be taken independently. Professor Loos.

Second semester; Mon., Wed., Fri., at 9:00.

7. CURRENCY AND BANKING—Outlines of the monetary history of the United States; money and credit instruments; the principles of banking and credit financiering. Professor Loos.

First semester; Mon., Wed., Fri., at 11:00.

8. PUBLIC FINANCE—The science of public finance; the theory of public expenditure; public income and public debts; the preparation of the budget and financial administration. Professor Loos.

Second semester; Mon., Wed., Fri., at 11:00.

9. DISTRIBUTION OF WEALTH—A study of the fundamental social institutions and controlling forces that are regulative in the distribution of wealth. Economic aspects of personal freedom, private property rights, and contract. Dr. SCHAFFNER.

First semester; Mon., Wed., and Fri., at 9:00.

10. THE MONOPOLY PROBLEM—The competitive system; economic evolution, industrial organization; questions of public regulation and ownership. The competitive order in its social aspects; criticisms of the anarchists, the individualists, the socialists and the social reformers. Distributive justice and social progress. Dr. SCHAFFNER.

Second semester; Mon., Wed., Fri., at 9:00

11. CORPORATION FINANCE AND THE THEORY OF ACCOUNTING—Corporation management and finance. Growth of corporations; their organizations; forms of investment; stock speculation; consolidation; bankruptcy; receivership, reorganization; general principles of investment. The principles and methods of accounting. Professor PATTERSON.

First semester; Mon., Wed., Fri., at 2:30.

12. TRANSPORTATION—The course will deal chiefly with railways; railroad organization and management, explanation of terms in common use in railroad accounts and reports, history of railroad development, discussion of rates, competition, discrimination, state management, and the commission system—state and interstate. Professor PATTERSON.

Second semester; Mon., Wed., Fri., at 2:30.

13. THEORY AND TECHNIQUE OF STATISTICS—A study of the population of the United States will be used to illustrate the statistical methods of investigation. Professor PATTERSON.

First semester; two hours, time to be arranged.

14. PROBLEMS IN STATISTICS—Laboratory course. The preparation of schedules, methods of tabulation, tabular and diagrammatic presentation of facts; the use of averages, index numbers, the median, the coefficient of error and other statistical devices. Professor PATTERSON.

Second semester; two hours, time to be arranged.

15. SOCIAL ANTHROPOLOGY — The primary ethnical groups. Man and his works in prehistoric times; an ethnological study of industrial and social organization from the earliest beginnings; regulation of industry; primitive methods of social control. Culture stages and the development of institutions. Dr. SCHAFFNER.

First semester; Tu., Th., at 10:00 and third hour by appointment.

16. INTRODUCTION TO SOCIOLOGY—The relation of sociology to the other social sciences; the physical and psychical aspects of association; social forces; social genesis; social values and social welfare. Professor LOOS.

Second semester; Tu., Th., at 10:00 and third hour by appointment.

17. SOCIAL AMELIORATION—State agencies for the care of delinquents and defectives, population elements; growth of municipal enterprises—public utilities and educational agencies; growth of philanthropic spirit—voluntary agencies for aid of needy classes. Professor PATTERSON.

Second semester; first Mon., Wed., Fri., at 8.00 p. m.

18. CRIME AND CHARITIES—Criminology and penology; pauperism and methods of relief; philanthropic financiering; social settlements. Course 17 must precede this course. Dr. SCHAFFNER.

Second semester; three hours, time to be arranged.

19 (*20*). THE LABOR PROBLEM—The labor problem in relation to the evolution of industry. The economic condition of the working classes in Europe and the United States from the beginning of the eighteenth century to the present time. The rise and growth of labor organizations; the development of collective bargaining; industrial arbitration and conciliation. Influence of the philosophy of individualism on legislation. The principle of state interference in industry. Dr. SCHAFFNER.

The work of each semester may be taken separately.

Throughout the year; Tu., Th., at 11:00.

23 (*24*). SOCIAL ECONOMICS—Selected topics in economics and sociology. Conducted as a seminar. Dr. SCHAFFNER.

The work of each semester may be taken separately.

Throughout the year; two hours, time to be arranged.

25. SOCIAL AND POLITICAL PHILOSOPHY, SEMINARY—The class will read selections from Plato's *Republic and Laws*, Aristotle's Politics, Machiavelli's Prince, Hobbes, Montesquieu, Blackstone, and Locke; Spencer's *Man vs. the State*, Huxley's *Administrative Nihilism*, Ritchie's *Principles of State Interference*, and selections from other modern philosophers. Professor Loos.

First semester; two hours, Wed., at 2:30.

26. SOCIALISM AND CONTEMPORARY SOCIAL LEGISLATION, SEMINARY—A critical examination of contemporary socialism and current tendencies in legislation. Professor Loos.

Second semester; two hours, Wed., at 2:30.

27. INTERNATIONAL LAW—The meaning of international law in its relation to sociology and its development with special reference to commerce; the laws of peace—independence, property, methods of territorial acquisition, jurisdiction, equality and diplomacy; the laws of war and the principles of neutrality; arbitration and the Hague tribunal. This course is offered primarily for liberal arts students. Professor Loos.

First semester; Tu., Th., at 10:00.

28. THE CONSULAR SERVICE—A study of the consular service of the United States and other leading countries. Conducted as a seminary. Professor PATTERSON.

Second semester; two hours, time to be arranged.

Not offered in 1905-1906.

29 (*30*). COMMERCIAL POLICIES—This course will include a brief review of the commercial systems adopted at various times by the several nations and a careful study of present policies. Protection, free trade, the mercantile system, reciprocity and commercial treaties, bounties, subsidies, tonnage duties, navigation laws, and the consular service will be among the topics treated. Professor PATTERSON.

Throughout the year; daily, time to be arranged.

31. TAXATION—An intensive study of the principles, methods and systems of taxation with special reference

to the incidence and effects of the several taxes. Course 8 must precede this course. Professor PATTERSON.

First semester; two hours, time to be arranged.

32. (*Mathematics 18*). INSURANCE—The mathematical theory of insurance. Dr. WESTFALL.

Second semester; two hours, time to be arranged.

33 (*34*). THE MATERIALS OF COMMERCE—Courses in the materials of commerce are at present provided by the departments of botany and geology, supplementing courses 3 and 4 in this department.

35 (*36*). COMMERCIAL LAW—Students during their senior year may schedule in the College of Law for contracts, bills, and notes, and similar courses, under the advice of this department, but in no case for more than five hours in one semester.

C. COURSES PRIMARILY FOR GRADUATES

39 (*40*). ADVANCED ECONOMIC THEORY—The rise and development of the classical school of economists will first be considered. This will be followed by a study of the recent development of political economy. The class will read (1) portions of Adam Smith's *Wealth of Nations*, Malthus's *Essays on Population*, Ricardo's *Political Economy*, and Cairnes's *Leading Principles;* and (2) selections from the writings of the Austrians and from Marshall, Clark, and other modern economists. Professor LOOS.

Throughout the year; Tu., Th., at 11:00, and two hours thesis work, optional by appointment.

45 (*46*). PROBLEMS IN STATISTICS—Designed to assist advanced students in specific lines of statistical research. Professor PATTERSON.

Throughout the year; hours to be arranged.

47 (*48*). GRADUATE SEMINARY—Conducted jointly with the departments of history and political science. Preliminary investigations and reports and prepared papers will be presented at joint sessions of the sections on alternate Monday evenings.

PHILOSOPHY

PROFESSOR PATRICK; PROFESSOR SEASHORE, DOCTOR MINER, PROFESSOR FAIRBANKS, MR. STARCH.

A. ELEMENTARY COURSES

1 (2). ELEMENTARY PSYCHOLOGY—A general course designed as an outline study of the whole subject, an introduction to the special courses in psychology, and a foundation for other courses in the department. The lectures will be illustrated by a rich collection of material for demonstration and by experiments before the class. Selections from the standard text-books will be read. Open to sophomores. Professor SEASHORE.

Throughout the year, two sections; three hours a week.

3. LOGIC—The methods of induction and deduction. Exercise in the detection of fallacies and the expression of arguments. Open to sophomores. Dr. MINER.

First semester; two hours a week.

4. ETHICS—An introduction to theories of morals and their practical application. The prominent problems of individual and social ethics. Mackenzie's *Manual of Ethics* will be used as a text. Prerequisite, course 1 or 3.

Second semester; two hours a week.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

5 (6). HISTORY OF PHILOSOPHY—This course will serve as a general introduction to philosophical problems as well as to the history of thought. Attention will be given to the definition of terms and explanation of the meaning of the various philosophical problems. The first semester will be devoted to Greek philosophy, and early Christian and mediæval thought; the second semester, to modern philosophy.

This course should be taken as preliminary to all advanced courses in philosophy, and, where possible, should be preceded by the elementary courses in psychology, logic, and ethics. Professor PATRICK.

Throughout the year; three hours a week.

7 (8). LABORATORY COURSE IN EXPERIMENTAL PSYCHOLOGY—The exercises are so selected and arranged as to

familiarize the student with the method, the apparatus, and the results of typical experiments in each of the approved lines of psychological research. Two periods are spent on each problem; during the first period the experiment is performed by each individual, the class being divided into groups of two, and during the second, the results and the literature on the subject are discussed on the seminary plan. Titchener's *Manual of Experimental Psychology* is used and supplemented by mimeographed instructions. Professor SEASHORE, and Mr. STARCH.

Throughout the year; two hours a week.

This course may be taken with or in sequence to course 1 (2).

9. GENETIC AND COMPARATIVE PSYCHOLOGY—A study of the evolution of mind in the animal series and of the development of mind in the individual. The course includes a discussion of the beginning and function of consciousness, the origin and evolution of instincts, the relation of heredity and training, the development of intellect, and the characteristics of infancy, childhood and adolescence. Lectures and reading. Dr. MINER.

First semester; three hours a week.

10. ABNORMAL PSYCHOLOGY—A general survey of the laws of abnormal mental phenomena. Abnormal perception, memory, imagination, reasoning, will, and feeling will be discussed with reference to the explanation of sleep, hypnosis, illusions, automatism, alterations of personality, insanity, degeneracy, and crime. Lectures and reading. Dr. MINER.

Second semester; three hours a week.

11. THE RELATION OF MIND AND BODY—A discussion of the various answers to this problem, first from the empirical and then from the philosophical point of view. Strong's *Why the Mind Has a Body* will be studied critically.

First semester; two hours a week.

12. AESTHETICS—Brief preliminary survey of æsthetic theories from the Greeks to the present. Analysis and criticism of the principles of art from the standpoint of psychology. Reconstructive study of æsthetics, including

the sense of beauty and the art impulse. The course will be based on Santayana's *Sense of Beauty* and Hirn's *Origins of Art.*

Second semester; two hours a week.

C. COURSES PRIMARILY FOR GRADUATES

13. GERMAN PHILOSOPHY OF THE NINETEENTH CENTURY —This course will include: (1) A review of the three great movements of thought in Germany in the past century, the idealistic, the materialistic, and the pessimistic, and (2) a study of recent German philosophy and present tendencies. Prerequisite, course 5 or its equivalent. Dr. MINER.

First semester; two hours a week.

14. ENGLISH AND AMERICAN PHILOSOPHY OF THE NINETEENTH CENTURY—A study of recent English and American philosophy, with special reference to the problems of (1) mechanism and teleology, (2) the relation of the physical and the psychical, and (3) pluralism and monism. Prerequisite, course 5 (*6*) or its equivalent. Dr. MINER.

Second semester; two hours a week.

19. THEORY OF KNOWLEDGE—An inquiry into the origin, nature, validity and value of knowledge. Dr. MINER.

Second semester; two hours a week.

Not offered 1905-1906.

20. SCIENTIFIC CONCEPTS—A discussion of the meaning and implication of such conceptions as evolution, variation, mutation, causation, law, measurement and chance. It inquires into the presuppositions and value of some of the fundamental ideas of mathematics, physics, biology and psychology. Dr. MINER.

First semester; two hours a week.

Not offered 1905-1906.

21 (*22*). PROBLEMS IN PSYCHOLOGY—A course of reading and criticism in the current literature of psychology. Professor SEASHORE.

Throughout the year; individual work.

23 (*24*). RESEARCH IN PSYCHOLOGY—Original investigation of special problems in psychology. Laboratory work and theses. The results of these investigations, if of suffi-

cient worth, will be published in the *State University of Iowa Studies in Psychology*. Professor SEASHORE.

First semester; two hours a week.

26. HISTORY OF PSYCHOLOGY—A general survey of the development of psychology in ancient, mediæval, and modern thought. Aristotle, St. Augustine, Kant, and Wundt, will be studied intensively as representatives of distinct periods. Mr. STARCH.

Second semester; two hours a week.

27 (*28*). PROBLEMS IN PHILOSOPHY—Special individual research in some historical or critical problem of philosophy. Professor PATRICK and Dr. MINER.

Throughout the year.

29 (*30*). COMPARATIVE RELIGION—Greek Religion. See Greek 29 (*30*). Professor FAIRBANKS.

Throughout the year; one hour a week.

This course will be followed by a course on Roman religion.

31 (*32*). STUDIES IN GREEK PHILOSOPHY—The work of the course centers about the problems discussed by Plato in the Republic. The development of these problems before Plato, the significance of Plato's own treatment of them, and the influence of the Platonic system on later Greek thought will be discussed in lectures by the instructor and in papers by the students. Professor FAIRBANKS.

Throughout the year; two hours a week.

See Greek 9 (*10*).

SPECIAL. PRACTICAL ETHICS—The ethics of science, literature, art, religion, the home, politics, business, the professions, social organizations, special student activities, academic proprieties, recreation, athletics, health, and mental economy will be considered in one lecture a week with reading. The course is given by the cooperation of several departments. The lecture on each topic will be given by a professor who is specially qualified to speak with knowledge and authority on his subject. The course is neither historical nor theoretical, but distinctly practical. It should be elected as early as possible in the university course.

Second semester; one hour a week, Th., 4:30.

EDUCATION

PROFESSOR BOLTON; PROFESSOR BROWN, ASSISTANT PROFESSOR DORCAS, SUPERINTENDENT MCCONNELL.

Course 1 (2) is the most desirable as a first course in education. Certain other courses may well be taken at the same time. After course 1 (2) the order is not important. Courses 1 (2) and 5 (6), or 1 (2) and 13 (14) make a good five hour combination. Courses 1 (2), 9 (10), 12, and 13 (14) are especially desirable for normal school graduates and are in no sense a duplication of work done in the normal schools. Advanced courses are also open to those qualified. Some seminary work is especially valuable for such students.

Some work in psychology and in biology is very desirable in preparation for the courses in education. Students expecting to do considerable work in education can profitably take psychology in the sophomore year, and then distribute the work in education through the junior and senior years.

1 (2). PRINCIPLES OF EDUCATION—The meaning of education considered from the standpoint of (1) psychology, (2) neurology, (3) biology, (4) anthropology, (5) sociology. Mental development as affected by heredity and environment, the education of the nervous system, mental hygiene, habit, association, memory, imagination, apperception, instinct, training in sense perception, observation, feeling and volition in relation to education, motor training, suggestion and imitation as forces in education. Varieties of education and varying ideals, educational means, educational values. Theories maintained by classical writers on education, such as Plato, Comenius, Pestalozzi, Froebel, and Herbart; contemporary writers as Hall, Harris, Rein, Dewey, etc. A study of such questions as the culture epochs, concentration, correlation, nascent periods, etc. Application of the foregoing to the making of courses of study and to teaching.

Two sections, throughout the year; Mon., Wed., Fri., at 10:00. Professor BOLTON. Mon., Wed., Fri., at 9:00. Assistant Professor DORCAS.

5 (*6*). METHODOLOGY AND TECHNIQUE OF INSTRUCTION—A careful study of the fundamental principles of methodology of teaching, together with demonstrations of library and laboratory accessories. The major part of the time will be devoted to high school subjects, though the relation of elementary to higher instruction will be considered. Designed to be thoroughly practical. Members of the faculty from several other departments frequently contribute lectures on the teaching of their own subjects in the high school. During the past, the heads of the departments of English, history, political science, botany, mathematics, and morphology have given such special lectures. These and others may be expected again. Through the kindness of school officials, students will be permitted to visit the city schools to observe methods and school organization.

Two sections, throughout the year; Tu., Th., at 10:00, Professor BOLTON. Tu., Th., at 9:00, Assistant Professor DORCAS.

7 (*8*). HISTORY OF EDUCATION—A rapid survey of the education of the Chinese, Egyptians, Hindus, and Persians; a careful consideration of Hebrew, Greek, and Roman education; the tracing of educational activity throughout the Dark Ages, and scholasticism, down to the renaissance; development of the humanistic, realistic, and naturalistic tendencies in renaissance education; a careful study of the more prominent educational reformers, such as Erasmus, Montaigne, Rabelais, the Jesuits, Comenius, Locke, Rousseau, Pestalozzi, Froebel, and Spencer. Assistant Professor DORCAS.

Throughout the year; Tu., Th., at 11:00.

9 (*10*). JOURNAL CLUB—This club meets weekly for the discussion of current educational literature. A report is usually given by some member upon articles of current interest, and then all join informally in the discussion. The following topics are typical: electives, self-government, manual training, nature study, transportation of children to school at public expense, medical inspection of schools,

etc. It has proven of great mutual benefit to students joining. Professor BOLTON, and Assistant Professor DORCAS.

Throughout the year; Th., at 4:30.

12. CHILDHOOD AND ADOLESCENCE—A study of the physical, mental, and moral nature of children and the best means of the proper development and training of each. Practical questions of home, school, and social pedagogics will be prominent, e. g., educational value of plays and games, self-government in school, children's interests and how to guide them, the power of imitation, the development of altruism, learning of law and order, children's fears, the nervous child, the troublesome child, eyesight, hearing, school diseases, school hygiene, overpressure in schools, the value of child study to parents and teachers, etc. Professor BOLTON.

Second semester; Tu., Th., at 8:00. (A second section may possibly be offered).

13 (*14*). THE HIGH SCHOOL—A practical consideration of the problems of the high school, including the place of the high school in an educational system, its relation to the community, organization and management, courses of study, educational values of high school subjects. The high school in its relation to adolescence. To give perspective, the historical development of the American high school, and a comparative view of foreign school systems will be considered. The training of teachers, the success of school systems with reference to (a) the development of the individual, and (b) the demands of society. Professor BOLTON.

Throughout the year; Tu., Th., at 3:30.

COURSES PRIMARILY FOR GRADUATES

17. PHILOSOPHY OF EDUCATION—Advanced course. This course will consist of a more detailed and exhaustive study of some of the questions begun in course 1 (*2*). Lectures will be given indicating the method of approach and outlining the topic, and then students will be expected to study critically through copious reading, sustained reflection, and, in some cases, observation and experimentation. Reports

upon prepared topics will be submitted for class discussion. Professor BOLTON and Assistant Professor DORCAS.

Throughout the year; Tu., Th., at 2:30.

19. HERBARTIAN DOCTRINES — Herbart's psychological and ethical doctrines in their bearing upon education. A critical consideration of his doctrines of apperception, interest, ethical development, and will training. A sketch of the Herbartian movement in Germany and in America. Teachings of Herbartian disciples. Assistant Professor DORCAS.

Second semester; two hours a week.

20. READINGS IN GERMAN AND FRENCH PEDAGOGY—Open only to those who have taken advanced courses in pedagogy, and who have a reading knowledge of these languages sufficient to make them a means of thought-getting. Readings and translations will not be attempted in class; this period will be devoted to reports upon the thought-content gained through reading. Professor BOLTON.

Second semester; two hours a week.

22. HISTORY OF EDUCATION—Advanced course. Open only to those who have taken course 7 (*8*) in this subject. An exhaustive study will be made of selected chapters in the history of the development of educational thought. Sources will be investigated whenever available. Lectures, readings, and extended reports. Assistant Professor DORCAS.

Second semester; two hours a week.

23 (*24*). GRADUATE SEMINARY—Designed to assist graduate students in original research and in the prosecution of thesis work for advanced degrees. A part of the time will be devoted to a critical consideration of technical educational literature and of modern educational problems. For example, during the past year Hall's two volumes on *Adolescence* were read during a part of the course. The special topics naturally are varied from year to year. Professor BOLTON.

Throughout the year; meetings, Mon. or Fri., 4:00 to 5:30.

Credit according to amount of work accomplished.

Attention is called to the courses especially adapted for teachers, offered by other departments. These courses are of two kinds, (*a*) those dealing in a specific way with the methodology and technique of high school instruction in those subjects, and (*b*) those in which the subject matter of instruction is of fundamental importance (and to a certain extent adaptable) in teaching those subjects in a modern manner in the high school. As much high school instruction needs vitalizing by being made more adaptable to the demands of the present, the value of such courses becomes apparent. The following courses in other departments have been especially developed as teachers' courses:

TEACHERS' COURSE IN PHYSIOLOGY—Course 3 (*4*) in animal biology. Especially designed for those who expect to teach physiology in the high school. Mr. LAMBERT, and assistants.

Throughout the year; Mon., 1:30 to 3:30.

APPLIED BIOLOGY—Course 6 in animal biology. A study of foods, cooking, modern dietaries, micro-organisms of disease, sleep, exercise, home and school hygiene, etc. Professor HOUSER.

Second semester; Tu., Th., at 9:00.

30. TEACHERS' COURSE IN LATIN—This course will combine theory, practice, and investigation. The members of the class will serve as assistant teachers in a beginning Latin class, and investigate assigned problems. It is intended for students who have had no experience in teaching Latin. Prerequisite, course 23 or 25, and general psychology. Professor POTTER.

Five times a week; three hours credit, second semester.

The library of the department of education is well equipped with all the standard and many special pedagogical works. All the American educational journals of any importance, and many English, German, and French periodicals are on file. In all about forty journals are regularly received. The library is thoroughly equipped for graduate work in most lines of educational research. It is especially well equipped for work in educational psychology, philosophy of education, and child study.

NOTE.

The department of education at present administers the following branches of university work besides the regular courses of instruction in the science and art of education:

1. The inspection of affiliated high schools.
2. The work of the university examiner and registrar.
3. A bureau of information concerning teachers' positions.

ANIMAL BIOLOGY

PROFESSOR HOUSER; MR. LAMBERT, MR. IVINS.

A. ELEMENTARY COURSES.

1. GENERAL ANIMAL BIOLOGY—A direct introduction to the whole field of animal life, and to the general principles of biological science. Living matter, the cell, elementary vital phenomena, and the unicellular organisms are first considered. Later, studies are made of a representative of each of the chief animal groups,—the activities characteristic of it; its natural surroundings; the structure of its adult form, both anatomical and microscopical; its life-history. Due emphasis is placed throughout on structure and function as adjusted to environment. This course should be followed by course 2. Professor HOUSER, Mr. LAMBERT, and assistants.

First semester. Lectures Tu. and Thu., at 11:00; laboratory, two afternoons of two hours each a week. Credit, four hours.

2. GENERAL ANIMAL PHYSIOLOGY—This course pertains to a more restricted field of animal biology, serving as an introduction to fundamental physiological processes in general, and to the more important problems of vertebrate physiology in particular. The laboratory work involves: (*a*) the anatomical study of a small mammal; (*b*) microscopical studies of the animal cell, and of the elementary tissues and the various organs,—all having especial reference to function; (*c*) demonstrations and experiments.

The lectures present the essential principles of animal physiology. This course should be preceded by course 1. Professor HOUSER, Mr. LAMBERT, and assistants.

Second semester. Lectures, Tu. and Th., at 11:00; laboratory, two afternoons of two hours each a week. Credit, four hours.

3 (4). TEACHERS' COURSE—A short course designed for those who expect to teach physiology in the high school, embracing both the content and the didactics of physiological science. The work is pursued through lectures, demonstrations, and laboratory studies. The departmental library contains the standard works of reference, thus readily accessible for collateral reading. This course may profitably be supplemented by courses 5 and 6 during the same year. Mr. LAMBERT and assistants.

Throughout the year; Mon., 1:30 to 3:30. Credit, one hour.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES.

5. PRINCIPLES OF BIOLOGY—Lectures giving a comprehensive view of the aims, the chief problems, and the more important results of biological science, presented from the standpoint of animals. The course is intended for those desiring to make a rapid survey of the entire field, either as an introduction to advanced study, or as part of a liberal education. The illustrative material cited is best appreciated by those having laboratory work in the department. This course may advantageously be followed by course 6 during the second semester. Professor HOUSER.

First semester; Tu., Th., at 9:00. Credit, two hours.

6. APPLIED BIOLOGY—Lectures, with laboratory demonstrations. The subjects considered include: foods,—their chemical composition, changes induced by cooking, means of preservation, common adulterants; modern dietary and nutrition studies; micro-organisms of disease,—their general biology, their dissemination by means of air, water, food-products, animal agents; disinfection; animal parasites; conditions affecting health in the home and school; muscular exercise, the nervous system, sleep, and other factors of student-life. The work is broadly biological in

scope, and is of especial value as an introduction to the problems of teaching, medicine, and sanitation. Professor HOUSER.

Second semester; Tu., Th., at 9:00. Credit, two hours.

7. MICROSCOPIC ANATOMY — A laboratory course, accompanied by lectures, demonstrations, and constant use of the reference library. The microscopy of the tissues and organs of vertebrates is the primary end in view, but lower animals are touched upon wherever desirable. The work includes the principles and more general methods of investigation, particularly fixing, imbedding, sectioning, staining, and mounting. The training in technique afforded by this course is a necessary preparative for all of the more advanced courses offered by the department. Prerequisite; courses 1 and 2, or the equivalent. Professor HOUSER, Mr. LAMBERT and Mr. IVINS.

First semester; Mon., Tu., Th., Fri., two hours each; lectures at 10:00. Credit, four hours.

8. EMBRYOLOGY OF VERTEBRATES—Lectures on the comparative embryology of vertebrates, supplemented by required reading. Demonstrations and practical studies of germ cells, oögenesis, spermatogenesis, fertilization of the ovum, cleavage of the fertilized egg, development of the germ-layers, and formation of the embryo. After the first of April, the laboratory work consists of the preparation and study of the chick at successive stages of development during the first five days of incubation, with contributory studies from the lower vertebrates. Prerequisite; course 7. Professor HOUSER, Mr. LAMBERT and Mr. IVINS.

Second semester; Mon., Tu., Th., Fri., two hours each; lectures at 10:00. Credit, four hours.

9. THE ANIMAL CELL—Lectures, reading, and laboratory studies. The lectures treat of the rise and development of the cell-theory, the general morphology of the animal cell, the microscopical structure of living substance, the chemistry of protoplasm, the transformation of matter and energy in the cell, the reproduction of the cell, the facts and theories of heredity, and the limiting conditions of life. The laboratory work is designed to accompany the

lectures. The more important monographs in this field are utilized throughout. Prerequisite; courses 7 and 8. Professor HOUSER and assistants.

First semester; two lectures and one laboratory period per week. Credit, three hours.

10. COMPARATIVE NEUROLOGY—A course for the more thorough study of the structure and physiology of the nervous system. The scope of the work includes a review of the general phenomena of irritability, primitive nervous mechanisms, types of invertebrate nervous systems, the differentiation of nervous structures in the vertebrate series, and the architecture of the mammalian nervous system. The topics are presented by lectures and demonstrations, anatomical work, and microscopical studies employing modern neurological technique. Prerequisite; courses 7, 8, and 9. Professor HOUSER and assistants.

Second semester; two lectures and one laboratory period per week. Credit, three hours.

11 (*12*). COMPARATIVE ANATOMY OF VERTEBRATES—This course is designed for those who are especially interested in the problems of vertebrate anatomy; it may be made introductory to research or to the field of human anatomy. Anatomical and microscopical studies of the protochordates, exemplified by Amphioxus, a tunicate, and Balanoglossus; followed by the dissection of Petromyzon, Mustelus, the skate, cat-fish, Necturus, the frog, the turtle, the pigeon, and the rabbit. Lectures and reviews, with reading from Wiedersheim's *Comparative Anatomy of Vertebrates*, Gegenbaur's *Vergleichende Anatomie*, and other works. Prerequisite; courses 7 and 8. Mr. LAMBERT and Mr. IVINS.

Throughout the year; two periods of two hours each per week. Credit, two hours.

C. COURSES PRIMARILY FOR GRADUATES.

13 (*14*). EXPERIMENTAL BIOLOGY—An advanced course for the more precise study of the relations between the animal organism and its environment. Laboratory work, references to special monographs, and the preparation of written reports. The experimental work involves a study of : (*a*) the effects upon protoplasm of chemical and physi-

cal agents; (*b*) the factors which determine the course of development; (*c*) the phenomena of regeneration in representative forms. Prerequisite; courses 7, 8, 9, and 10. Professor HOUSER.

Throughout the year; two laboratory periods a week. Credit, two hours.

16. INVERTEBRATE EMBRYOLOGY—Reading, conferences, and laboratory studies introductory to the development of chosen invertebrates. This course, while general in its scope, is particularly helpful to those expecting to pursue work at seaside laboratories. The course is based on Korschelt and Heider's *Text-Book of the Embryology of Invertebrates*, but the student is encouraged throughout to refer to original sources so far as these are accessible. Prerequisite; courses 7, 8, and 9. Professor HOUSER.

Second semester; two laboratory periods a week. Credit, two hours.

17 (*18*). SEMINARY—Weekly meetings of the instructors and advanced students of the department for the presentation of papers, the review of literature, and informal discussions. The primary object is to acquaint those devoting especial attention to animal biology with some of the aims and problems of current investigation. Professor HOUSER.

Throughout the year; one period a week. Credit, one hour.

19 (*20*). RESEARCH COURSE—Original investigation of a specific problem in animal biology. The subjects assigned for research will be in neurology, cytology, embryology, and experimental biology. Means will be found for the publication of all results which are worthy of it. For graduate students having the requisite preliminary training in biological work. Professor HOUSER.

Throughout the year; two, three, or five periods a week.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM.

A. ELEMENTARY COURSES.

1. SYSTEMATIC ZOOLOGY—The earlier part of this course is devoted chiefly to study of the cœlenterates and

echinoderms. Later the mammals are taken up and the principles of classification applied to this more limited group. More attention is paid to generic and specific characters, and more detailed descriptions are made, daily practice being afforded by the use of the large series of mammals in the Hornaday collection and main museum. Instruction in the preparation of skulls and skeletons is given to students desiring it. Professor NUTTING, and Mr. BELL.

First semester; Mon., Tu., Wed., Th.

2. SYSTEMATIC ZOOLOGY—This course will be concerned with a continuation of the study of mammals; the last twelve weeks however will be spent in the consideration of birds, and on this subject the whole work in systematic zoology is centered. Owing to the very large series of birds (about 11,000 specimens) in the museum, there is ample opportunity for systematic work during this semester. Professor NUTTING, and Mr. BELL.

Second semester; Mon., Tu., Wed., Th.

Courses 1 and 2 are open to freshmen.

B. COURSES FOR GRADUATES AND UNDERGRADUATES.

3 (*4*). ENTOMOLOGY—This course opens with a study of the anatomy and the development of insects, after which each order will be taken up in detail, typical species of the principal families being chosen to illustrate structure and classification. Due attention is given to economic problems and to the philosophical side of the subject. Professor WICKHAM.

Throughout the year; Mon., Wed., Fri.

5 (*6*). LECTURES ON SPECULATIVE ZOOLOGY—This course is devoted to a presentation of the more prominent theories concerning the origin and the development of animal forms and a historical review of the position held by the most prominent workers in speculative zoology. Special attention will also be paid to a study of the habits, instincts and intelligence of animals. This course will be open to juniors and seniors. Professor NUTTING.

Throughout the year; Tu., Th.

7 (*8*). PRACTICAL ZOOLOGY—In this course the work will be confined to species and groups of species that have either a positive or negative economic value. While the zoological point of view will be maintained, those facts which have a practical value will be emphasized. In general the groups will be treated in systematic order, commencing with the protozoa and ending with the mammalia, and those animals in each group having either a directly beneficial or a directly injurious effect on man will be discussed.

Among the former will be included: those which have an established commercial value, e. g., precious coral, oysters, bees, game birds, fur-bearing animals, whales; those animals which have been domesticated by man. The latter group includes numerous injurious worms and insects, the bird and mammal pests, and parasites, e. g., the English sparrow and pocket gopher. This course will be open to all students. Professor NUTTING, and Professor WICKHAM.

Throughout the year; Mon., Wed., Fri.

9 (*10*). ENTOMOLOGICAL TECHNIQUE—Instruction in the best methods of collecting, mounting, and preparation of insects. This course will involve a certain amount of field work, and will supplement courses 3 and 4. It is not intended to be set work, but will give the student an opportunity to consider problems of local distribution, correlations of habit and structure, and other phenomena which can be dealt with satisfactorily in connection with labors in the field. It should also fit him for such practical tasks as are likely to be met with in the line of original investigations. While intended primarily for graduates, or for those who have completed courses 3 and 4, others may be admitted at the discretion of the professor. Professor WICKHAM.

Hours will be arranged.

11 (*12*). THESIS—Advanced work in any group of animals of which the museum contains a sufficient series. Free access to any specimens or books on the museum floor is accorded students doing thesis work in zoology, and a convenient study room has been fitted up for the use of advanced students.

The above courses are intended to be consecutive, except that course 3 may follow the first year's work in animal biology, and 5 may be taken by juniors and seniors without previous work in natural science. A combination of courses 3 and 5 is recommended for students desiring a five hours' course, which will include a critical study of a definite group of animals, together with the application of biological principles elucidated in course 5. This course is more particularly designed in the interest of students who do not intend to specialize in zoology.

C. COURSES PRIMARILY FOR GRADUATES.

13 (*14*). An exhaustive systematic discussion of any limited group of animals of which the museum affords sufficient material, and the library sufficient literature.

In several groups, such as birds, echinoderms, mollusca, crustacea, coleoptera, and cœlenterata, the museum can now offer facilities for the most advanced systematic work, both the material and the literature being adequate.

15 (*16*). Special investigation along lines of speculative zoology; e. g., coloration of animals, geographical distribution, variation, natural selection, etc.

17 (*18*). Special investigation along the line of practical zoology; e. g., the life, history, economic importance, propagation and care of animals of either positive or negative economic value, together with a study of their enemies, if the animals studied are of positive economic value, and of the best means of extermination when they are of negative economic importance.

19 (*20*). Research work in entomology. Advanced students who wish to take up special work in general or systematic entomology will be given the opportunity to do so upon consultation with the professor. The material at the command of the department is ample. Professor WICKHAM.

Each course in zoology will involve considerable original research, and cannot be outlined in advance, as it is impossible to foretell the direction in which the student will be led by his investigations. As an example of the nature of the work expected of students taking zoology as

a major, the following outline of a thesis presented and accepted for the master's degree is given:

Subject: *Individual Variation of Animals in a State of Nature.*

Material used: The unusually large series of certain American birds in the museum of natural history, and the literature on variation in the university library.

Method of work: Over ten thousand measurements were taken of the parts to be compared. The measurements were recorded, and used in constructing diagrams which show graphically: (*a*) the actual extent of variation; (*b*) the comparative extent of variation; (*c*) correlation in variation of different parts of the animal.

The thesis itself presents a discussion of variation in general, and the results of the special investigations of the writer in particular, with immediate reference to their bearing on the theory of natural selection as advanced by Charles Darwin. The diagrams indicated that not only the extent of variation but also the direction in which it is tending, can be ascertained by the method used by the investigator.

BOTANY

PROFESSOR MACBRIDE; PROFESSOR SHIMEK.

1. PLANT HISTOLOGY AND PHYSIOLOGY—An elementary laboratory course in histology, accompanied by lectures on the fundamental physiological processes in plants, with special reference to the origin of the principal groups of plant-products, such as carbohydrates, proteids, etc. Professor SHIMEK.

Two hours a week during the first semester.

2. GENERAL PLANT PHYSIOLOGY—A continuation of course 1, devoted wholly to plant physiology. Professor SHIMEK.

Two hours per week during the second semester.

3 (4). PLANT ECOLOGY—A course of lectures, many of them illustrated, supplemented by collateral reading, but based chiefly upon field-observations and investigation. The most important problems of ecology in the broadest sense are discussed and illustrated by field and laboratory work.

The local flora, developed under the diversified conditions existing in the region about the University, furnishes abundant material for the study and illustration of the more important phases of modern ecology.

This course is especially recommended to those intending to teach. Professor SHIMEK.

Three hours a week; throughout the year, Mon., Wed., Fri.

5. GENERAL PLANT HISTOLOGY—This course requires eight hours a week in the laboratory. Daily lectures accompany the laboratory work. In connection with this course the student receives special instruction in the preparation of sections, staining, mounting, etc. Professor MACBRIDE.

First semester; Mon., Tu., Wed., Th.

6. PLANT MORPHOLOGY—This course consists of lectures and laboratory work, and is intended to illustrate the structure and life-history of the several types presented by the vegetable kingdom. Goebel's *Outlines of Classification* is used as a basis, but all the leading text-books are at the service of the student.

Special attention is paid to all available forms of our cryptogamic flora; slime moulds, schizophytes, diatoms, algæ, fungi, mosses, ferns, and their allies are successively passed in review. This course is open to all students who have had course 1, and to all students who are credited with botany in their preparatory course. While it is in some particulars a review of the preparatory course, it is also made the basis of work in the subsequent courses. Professor MACBRIDE.

Second semester; Mon., Tu., Wed., Th.

7 (*8*). PLANT EMBRYOLOGY AND CYTOLOGY—A special laboratory course with collateral reading. This course is confined chiefly to the consideration of the embryology of phenogamous plants. Some plant is selected by the student and its whole life-history traced. Professor MACBRIDE.

Throughout the year as arranged.

9 (*10*). GENERAL BOTANY—A course of popular lectures and special studies intended to illustrate the purpose, method, and scope of present botanical research, the progress

of botanical science in recent years, and the general economic importance of the subject. The lectures are illustrated by material from the herbarium and the field, and no effort is spared to give the course the highest practical value. This course is open to all students. By special arrangement, students taking the course may have the advantage of laboratory work, not to exceed four hours per week.

A course of illustrated lectures accompanies this course. Professor MACBRIDE.

Two hours a week; throughout the year.

11 (*12*). EXPERIMENTAL PLANT PHYSIOLOGY—This is a course in experimental laboratory and field work, and includes the investigation of the processes of absorption, assimilation and respiration in the green plant, including the attendant phenomena of transpiration, various movements in plants, etc. Professor SHIMEK.

Two hours a week; throughout the year.

13. GENERAL MYCOLOGY—This is a course in the study of fungi, and consists of laboratory work, supplemented by lectures, experiments, and collateral reading. It is an advanced course. Students make and classify collections for themselves. In identifying material collected, students are aided by extensive mycologic literature, *exsiccati*, etc. Professor MACBRIDE.

First semester; two hours a week.

14. PLANT PATHOLOGY—A study of the causes of plant diseases and deformities. Special attention is given to pathological organisms, and to external conditions producing pathologic conditions in the plant. Professor MACBRIDE.

Second semester; two hours per week.

15 (*16*). SPECIAL SYSTEMATIC WORK—The large collections of the University now afford unusual opportunity for the special study of particular groups and families, and students are invited to engage in original research in the revision of accumulated species. Professor MACBRIDE, and Professor SHIMEK, according to the group chosen.

Throughout the year as arranged.

17 (*18*). SPECIAL APPLIED BOTANY—A course of reading and laboratory study for students of pharmacy and medicine. The official *Materia Medica* is made the basis of the special study of medicinal plants, their nature, origin, and relationships. Professor MACBRIDE.

Throughout the year as arranged.

19 (*20*). ECONOMIC BOTANY—A lecture, laboratory, and field course presenting a view of the plant world with reference to economic uses. The principles of forestry, and other economic branches related to botany, are discussed, and special plant products of use to man, such as woods, fibres, etc., are considered. This course is also supplemented by laboratory work. Professor SHIMEK.

Throughout the year; two hours a week.

21 (*22*). SEMINARY—A special course in reading and study of current literature is arranged for such students as have completed at least the equivalent of courses 3 and 4 in botany. Students are expected to prepare written reviews and criticisms of the literature presented, to engage in discussion of topics especially assigned, and to carry forward at appropriate seasons special investigations in the field as directed. Professor MACBRIDE, and Professor SHIMEK.

Throughout the year; one hour a week.

23 (*24*). THESIS COURSE—Designed for such students, either graduates or others, as desire to undertake problems of original research. Professor MACBRIDE, and Professor SHIMEK.

Throughout the year as arranged.

25. DENDROLOGY—A brief course in the study of the stems, buds, leaves, flowers and fruits of local native and cultivated trees with a view to the ready recognition of species in the field. Professor SHIMEK.

First semester; one hour a week.

26. DENDROLOGY—A comparative microscopic study of woods with special reference to quality. A study of the grain, color and other striking characters of wood for purposes of recognition. Attention is also given to causes of decay of wood. Professor MACBRIDE, Professor SHIMEK.

Second semester; two hours a week.

27. ARBORICULTURE—The study of the life-history of a tree; its mode of growth and repair. The effect of environment on trees. The selection, planting and treatment of trees for streets, lawns, and parks. The course consists of lectures, many of which are illustrated, and of field-work, and is open to more advanced students in botany. Professor MACBRIDE, Professor SHIMEK.

First semester; three hours a week.

28. ARBORICULTURE—A continuation of course 27, with a large part of the time, especially during the third quarter, given to such features of tree-culture as may be taught with profit in the public schools. Professor SHIMEK.

Second semester; three hours.

ADVANCED COURSES.

Courses 7 (*8*), 11 (*12*), 13, 21 (*22*), 23 (*24*), 26, and 27 (*28*) are designed chiefly for graduate students, but advanced students in botany may be admitted.

TECHNICAL COURSES.

29. (*30*). SILVICULTURE—The perpetuation of the forest. Methods of improving forests. The value and treatment of mixed and pure stands. The determination of the rate of growth. The principles and practices of reforestation. A portion of the course in mid-winter consists of lectures and reading on silviculture in foreign countries. Tree-plantation work will be continued in connection with this course. Professor SHIMEK.

Three hours throughout the year.

31. FOREST PRODUCTS—A discussion of the value of various products of the forest, the uses to which they are put, and the manner in which they are obtained and treated. Professor SHIMEK.

Two hours a week during the first semester.

32. FOREST MENSURATION—Practical methods employed in the determination of the contents of logs, standing trees, entire stands, etc. Further practice in the determination of the age and rate of growth of trees will be given. Professor SHIMEK.

Two and one-half hours a week during the second semester.

33. LUMBERING—The methods of lumbering practiced in this country including methods of transportation in the forest. Attention will also be given to milling and manufacturing operations. In connection with this course students will be expected to spend two or three weeks in lumber camps during a holiday vacation.

Three hours a week during the first semester.

34. FORESTRY IN THE UNITED STATES—Former extensive forests, and their destruction by wasteful methods. The physiographic and industrial consequences. The work of the U. S. Bureau of Forestry. The forest policy of the general governments and of the several states. Forestry in the Philippines and Porto Rico. Healthfulness, climatic conditions, etc.

Five hours a week during the second semester.

36. FOREST MANAGEMENT—The management of forest areas with a view to continued profitable yield. The preparation of working plans for larger forest areas. Each student will prepare a working plan for a selected area. The plan will include maps, estimates of timber, best methods of cutting and handling, subsequent treatment of tract, etc.

Three hours a week during the second semester.

38. FOREST PROTECTION—The discussion of methods of protecting the forest against fires, parasites, cold winds, and other injurious agencies.

Two hours a week during the second semester.

40. HISTORY OF FORESTRY—A lecture and reading course reviewing the development of forestry in foreign countries, and in the United States.

One hour a week during the second semester.

Courses 29, 30, 33, 34, 36, 38 and 40 will be given under the direction of Professor Shimek, but it is not expected that they will be offered during the year 1905-06. They will be added as rapidly as the progress of students will create a demand for them. It may be necessary to give some of them during alternate years, but in such manner that students who complete the course will have had all of them.

GEOLOGY

PROFESSOR CALVIN; PROFESSOR WILDER, MR. BRYDEN

A. COURSES IN GEOLOGY FOR UNDERGRADUATES

1 (2). PRINCIPLES OF GEOLOGY—This course is designed to present the fundamental facts of geology for students who wish to become acquainted with the principles of the science without making a specialty of it. Lectures, illustrated with museum specimens, views, maps, and microscopic preparations. Professor CALVIN.

The course may be supplemented by course 1 in astronomy.

Throughout the year; twice a week, Tu., Th., at 9:00.

3. MINERALOGY, BRIEF COURSE—This course is intended to give a practical knowledge of the common minerals through familiarity with their physical properties and associations. Instruction is given in the lecture room and laboratory. Each student will determine the physical properties of some 2,000 unlabeled specimens. Wherever necessary to render determinations positive, blowpipe tests will be introduced. Prerequisite, general chemistry.

Mon., Wed., and Fri., at 9:00. First semester, laboratory periods.

This course is required of all civil engineering students and may be elected by students in other departments. Professor WILDER.

4. GENERAL AND ECONOMIC GEOLOGY—This course is planned for those who wish to know something of the fundamental principles of geology, and at the same time are particularly interested in the economic aspects of the science. The great earth forming forces are considered, particularly with reference to their bearing on engineering problems and the economic products which have resulted from their operation. The course will include a study of the common rocks and their properties; and ore deposits of the non-metalliferous products. Prerequisites, general chemistry and mineralogy.

Second semester, Mon., Wed., and Fri., at 9:00.

Required of civil engineering students, elective for others. Professor WILDER.

5. PHYSICAL AND DYNAMICAL GEOLOGY—In this course the principles of general geology are discussed so far as they relate to the destructive, constructive, and other dynamic forces which operate to bring about change on the earth's surface. Especial attention is given to the facts of rock-making, continent-making, and mountain-making, together with the evolution of the major and minor topographic forms of the North American continent. Large series of rocks, minerals, maps, lantern slides, photographs, and models afford the materials for lecture illustration and laboratory study. Professor CALVIN.

Lectures and laboratory work; Mon., Tu., Th., Fri., first semester, at 10:00.

6. HISTORICAL GEOLOGY—In this course attention is given to the time periods and rock systems recognized by geologists, to the physical and physiographic conditions under which the successive rock strata of North America were deposited, and to the lithology, geographical distribution, economic products, and typical faunas of the several formations, particularly those of the Mississippi Valley. Professor CALVIN.

11 *(12)*. PETROLOGY—This course will include:

(a). Crystallography; a study of the properties of crystals, the process of crystallization and the crystal systems, with laboratory exercises using natural crystals, crystal models, and microscopic sections of crystals;

(b). Descriptive and determinative mineralogy of the rock-making minerals;

(c). The mineralogical and chemical composition of rocks, their origin, structural features, and classification.

The laboratory equipment for this course consists of carefully selected collections representing all the principal rock-making minerals, rock families, and rock types, together with several hundred thin sections for study with the microscope, and a number of the latest and best petrographical microscopes. Professor WILDER.

First semester; daily. Lectures and laboratory work, 1:30 to 3:30.

13 *(14)*. INVERTEBRATE PALEONTOLOGY — The course in paleontology is designed primarily to give the student such acquaintance with fossil faunas as will enable him to determine the age of rocks containing recognizable organic remains. The principles of classification are studied, and the principal fossil types are carefully described from museum material or from specimens collected in the field. Professor CALVIN.

Throughout the year; Tu., Wed., Th., Fri., at 8:00.

15 *(16)*. GEOLOGY OF IOWA—This course is offered to students who have had the equivalent of courses 3 and 4, or 3 and 5, and is intended for those who, for any reason, desire an intimate knowledge of the geology of the state. To count four hours for one, or two semesters. Hours arranged to meet the convenience of students. Professor CALVIN.

17 *(18)*. PETROLOGY — Advanced work is offered to students who have taken a course in petrology. The work will consist in the careful study of the rocks of a selected region, and the preparation of a thesis on the same. The course may be taken so as to count two, or four hours through the year. Professor WILDER.

C. COURSES PRIMARILY FOR GRADUATES

19 *(20)*. RESEARCH WORK IN PALEONTOLOGY—This course may be taken as a major or a minor by candidates for graduate degrees. It may embrace such problems as the stratigraphic distribution of the fauna of a given geological formation, the critical study of certain selected geological faunas, the geographical and geological range of certain zoological groups of organisms, or the evidences of descent in successive geological faunas. Length of course, from one to three years. Professor CALVIN.

21 *(22)*. FIELD WORK IN GEOLOGY — This work may cover any one of a large range of subjects. For example, it may include the careful study of the indurated rocks of some selected area, making sections, correlating outcrops, mapping the geology, and writing a report. The study of Pleistocene geology in Iowa affords many interesting prob-

lems relative to the age and composition of the drift in different localities, the characteristics and origin of the crystalline boulders, the origin and distribution of the loess, and many other questions. The work may be directed by Professor CALVIN or Professor WILDER.

23 *(24)*. RESEARCH WORK IN ECONOMIC GEOLOGY OR MINERALOGY—The work in this course will depend largely on the previous preparation of the student. It may consist of detailed study of some geological field of economic importance, or of some mineral or group of minerals and the related industries. The credit will depend upon the nature of the work and the time spent. Professor WILDER.

31 *(32)*. MINERALOGY FOR PROSPECTORS — This course is intended to give the student such a familiarity with the physical characteristics and associations of minerals as will enable him to determine them with considerable accuracy without the aid of blowpipe or reagents. A large amount of labeled material is examined, and a still larger number of unlabeled specimens are given the student for identification. Such blowpipe practice as is deemed necessary to render determinations positive is included during the second semester. Professor WILDER.

Lectures Monday, Wednesday and Friday with laboratory work throughout the year. Lecture hour, 10:00.

Prerequisite, general chemistry.

33 *(34)*. THE NATURE AND ORIGIN OF ORE DEPOSITS — This course aims to study ore deposits in a way that will be of value to the prospector and mine operator. It will cover the more practical parts of the publications of Kemp, Lewis, De Launay, Posepny, and papers prepared for the United States Geological Survey, and the American Institute of Mining Engineers.

Twice a week, Tuesday and Thursday, at 11:30 throughout the year. Professor WILDER.

Prerequisite, general chemistry. Mineralogy must be taken either before or with it. Course 31 *(32)* may advantageously be taken during the same year.

CHEMISTRY

PROFESSOR ROCKWOOD; DR. VON ENDE, DR. KARSLAKE, MR. BRYDEN, MR. LINCOLN, MR. FARR.

The following courses are offered. Regarding their arrangement into a symmetrical four year course of study, or the proper selection of electives as a preparation for teaching, research, or the pursuit of some of the branches of chemistry as a profession, students are urged to consult freely the head of the department.

1 (2). INORGANIC CHEMISTRY—The course extends through the year and consists of lectures, recitations and laboratory work. It is designed not only as a fundamental course for those who intend to specialize in chemistry but also to prepare those who desire to give instruction in the subject in secondary schools. In addition it is planned to serve as a chemical foundation for anyone who wishes to devote himself to other branches of pure or applied science and whose time available for chemistry is limited. The lectures will be illustrated by experiments; the laboratory work gives the student an opportunity to learn chemical manipulation and to study at closer range the more important elements and compounds, and the principal forms of chemical action. Professor ROCKWOOD, and Dr. VON ENDE.

Lectures and recitations, three hours; laboratory once a week.

3. ELEMENTARY ORGANIC CHEMISTRY—This is a continuation of course 1, which is a prerequisite. The purpose is to give some acquaintance with this important branch to those who have not time for more extended work. It is recommended that it be accompanied by at least four hours of laboratory practice of course 35. Professor ROCKWOOD.

Tu., at 9:00.

5 (6). QUALITATIVE ANALYSIS—The work is for the most part done in the laboratory although lectures and recitations will be included as may be necessary. The reactions of the bases and acids will be studied, both as they show the nature of chemical compounds and their chemi-

cal changes, and as they serve for the identification of such substances. Instruction will be given in the wet methods of analysis and also in analysis by the aid of the blowpipe. Course 1 is a prerequisite. Professor ROCKWOOD, and Dr. VON ENDE.

7. THEORETICAL AND PHYSICAL CHEMISTRY—Lectures, covering chemical statics and dynamics, thermo- and electro-chemistry. Dr. VON ENDE.

First semester; twice a week.

8. ELECTRO CHEMISTRY—Lectures twice a week and practicum once a week. Dr. VON ENDE.

Second semester.

9(*10*). THEORETICAL AND PHYSICAL CHEMISTRY—Laboratory course. Courses 7 and 9, or 8 and 10 may be taken simultaneously or independently. They must be preceded by at least courses 1 and 2, and by the first two in physics, or their equivalent. Dr. VON ENDE.

First and second semesters; laboratory practicum once or twice a week.

11. THEORY OF ANALYTICAL CHEMISTRY—Lectures once a week, first semester. Prerequisite courses, 1 (*2*), and 5 and (*6*). Dr. VON ENDE.

12. HISTORY OF CHEMICAL THEORIES—Lectures on the development of chemical theory, with particular attention to the post-phlogiston period. Dr. VON ENDE.

Second semester; once a week, Wed., at 11:00.

13. ELECTRO-METALLURGY—Lectures on the application of electro-chemical methods to the reduction and refining of metals. Dr. VON ENDE.

First semester; once a week. Prerequisite; courses 1 (*2*), and 8.

15 (*16*). ELECTRO-CHEMICAL PREPARATIONS—Laboratory practicum in the preparation of chemical substances by electric methods. Dr. VON ENDE.

First or second semester; twice a week. Prerequisite; courses 1 (*2*), and 8.

17 (*18*). ELECTRO-CHEMICAL ANALYSIS—Laboratory practicum in the quantitative electrolytic separation of the metals. Dr. VON ENDE.

First or second semester; twice a week. Prerequisite; courses 1 (*2*), 8 and 9.

19 (20.) QUANTITATIVE ANALYSIS—General Course. A laboratory course in the principles of quantitative analysis, consisting of practice in the gravimetric and the volumetric analysis of the more simple substances, together with conferences, discussions and assigned readings. Prerequisite; course 1 (2), or 45, 47. Dr. KARSLAKE.

Throughout the year; three to fifteen hours a week. Work in this course may be begun at the beginning of any term during the year. Though not required, it is recommended that this course be preceded or accompanied by course 11.

21 (22). QUANTITATIVE ANALYSIS—Advanced Course. This laboratory course aims to specialize to a considerable extent on the more difficult methods of analysis. The analysis of minerals, alloys, etc., will be taken up according as circumstances permit. The work is designed to give the student such general training as shall enable him to deal intelligently and successfully with analytical problems. Prerequisite; course 19 (20), or 45, 47, or their equivalent. Dr. KARSLAKE.

Throughout the year; three to fifteen hours a week. The course may be begun at the commencement of any term.

23 (24). SELECTED CHAPTERS FROM PHYSICAL AND ELECTRO-CHEMISTRY—Dr. VON ENDE.

Lectures, once a week; first or second semester. Prerequisite; courses 7 and 8.

25 (26). INDUSTRIAL CHEMISTRY—Laboratory Course. This course consists essentially of a series of experiments, both qualitative and quantitative, illustrating the general principles of chemical processes as applied to the preparation and purification of some of the more important inorganic technical products on a scale sufficiently large to determine with considerable accuracy the factors and conditions upon which the economy of the process depends. Prerequisite; course 5 (6), or its equivalent. Dr. KARSLAKE.

First or second semesters; three to six hours a week.

27 (28). PHYSIOLOGICAL CHEMISTRY—Lectures and recitations. The course includes the study of the constitu-

ents of the animal body together with the chemical changes occurring in the vital processes, also the secretions and excretions of the body. Course 1 (2), and 3 or 35 are prerequisites. Professor ROCKWOOD.

Throughout the year; two hours a week.

29 (*30*). PRACTICAL PHYSIOLOGICAL CHEMISTRY—A laboratory course treating the same subjects as the preceding. Prerequisites are courses 1 and 27 (*28*). Physiology is helpful but not essential. Professor ROCKWOOD, and Mr. LINCOLN.

Two hours each week; throughout the year.

31 (*32*). ADVANCED PHYSIOLOGICAL CHEMISTRY—This is planned for those who wish to continue the work of the preceding courses. The methods used in research for the isolation and quantitative determination of some of the body constitutents are studied in the laboratory. It may be taken as a minor for an advanced degree. Professor ROCKWOOD.

Five hours each week; prerequisites; courses 1, 27 (*28*), and 29 (*30*).

33 (*34*). ORGANIC CHEMISTRY—General course. Lectures, recitations and assigned readings upon the chemistry of the aliphatic and cyclic compounds. This aims to give the student a good general knowledge of the fundamental principles and theories of organic chemistry and is recommended to those who have a special interest in chemistry, biology, medicine, pharmacy or sanitary engineering. Prerequisite; course 1 (*2*). Dr. KARSLAKE.

Throughout the year; two hours a week. It is recommended that this course be accompanied by a laboratory course in organic chemistry.

35 (*36*). ORGANIC CHEMISTRY—Laboratory course. This consists in the preparation of a series of typical compounds of carbon together with a study of their properties, etc., in such a way as to give familiarity with the most important synthetical methods. Course 35, but not (*36*) is open to those taking course 3. Prerequisite; course 33 (*34*). Dr. KARSLAKE.

Throughout the year; four to ten hours a week.

37 (*38*). ORGANIC CHEMISTRY—Advanced course. This is chiefly a laboratory course dealing with a study of some of the more difficult synthetical methods and the preparation of some of the more complex organic compounds. Assigned readings and references to original articles on the special topics studied will constitute an important part of the course. It is open to graduate students and may be taken as part of their major or minor work for an advanced degree. Prerequisite; a reading knowledge of French and German and courses 33 (*34*), and 35 (*36*). Dr. KARSLAKE.

Throughout the year; ten to twenty hours a week.

40. ULTIMATE ORGANIC ANALYSIS—This is designed to give the student familiarity with, and practice in, the most approved methods for the quantitative determination of carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorus and the other elementary constituents of organic substances. Prerequisite; courses 19 (*20*). Dr. KARSLAKE.

Second semester; four hours a week.

43. TOXICOLOGY—A laboratory course in which are demonstrated the methods used for the identification and quantitative determination of poisons, as well as the methods of separating them from foods, clothing, wall-paper and various complex mixtures. The post mortem lesions are studied and the means of localization and recovery from the tissues of the body. Prerequisites, 1 (*2*), 5 (*6*), and 19 (*20*). Professor ROCKWOOD.

Second semester; six hours a week.

44. SANITARY CHEMISTRY—*a*. WATER ANALYSIS—This consists of laboratory work on the qualitative and quantitative determination of the impurities in natural waters. Emphasis is laid upon the interpretation of the results in judging of the potability of the water or its suitability for domestic and technical purposes. Prerequisite; course 1 (*2*), 5 (*6*), and 19 (*20*). Professor ROCKWOOD.

First quarter; six hours a week.

b. FOOD ANALYSIS—A laboratory course in testing foods as to their purity, together with the detection of preservatives, adulterants and substitutes. Prerequisites as in 48a. Professor ROCKWOOD.

Second quarter; six hours a week.

45. INORGANIC CHEMISTRY—This includes as much of the science as is essential for students in the different departments of engineering and is taught by experimental lectures and recitations. Mr. ————.

First quarter, three hours; second quarter, two hours, each week.

47. ANALYTICAL CHEMISTRY—This course must be taken in connection with course 45. It will deal chiefly with the reactions of the metals and acids as a preliminary to the analysis of the common minerals and ores. Mr. ————.

First quarter, two periods; second quarter, three periods, each week.

49 (*50*). GENERAL METALLURGY—This is designed especially for students of mining engineering but is open to those who are qualified for it. It includes the methods used for the reduction of metals from their ores and is taught by lectures, recitations and laboratory work. Visits to metallurgical works are planned for the vacations. General inorganic chemistry and qualitative analysis are prerequisites. Mr. BRYDEN.

Three hours each week; throughout the year.

51. *b*. SPECIAL METALLURGY—A course for students of civil and mechanical engineering, dealing particularly with the metallurgy of iron, steel and copper. Mr. BRYDEN.

Second quarter; five hours a week.

52. ASSAYING—A laboratory course on the determination of ore values by fire assaying. Prerequisites are inorganic chemistry, qualitative and quantitative analysis. Mr. BRYDEN.

Second semester; four hours a week.

53 (*54*). QUANTITATIVE ANALYSIS—Technical Course. A laboratory course designed to familiarize the student with the most approved methods for the analysis of some of the more important industrial and technical products, such as building material, coal and coke, iron and steel, etc. Prerequisite, course 5 (*6*), or 45, 47. Dr. KARSLAKE.

Throughout the year, three to fifteen hours a week. Students may begin this course at the beginning of any quarter during the year.

56. THE CHEMISTRY OF COMMON LIFE—This is outlined to meet the wants of those whose time is so occupied that they are unable to take a more complete course on the subject. It treats of some of the applications of chemistry to the problems of every-day life. The composition and properties of air, water and foods are studied together with the chemistry of cookery and digestion, including a consideration of food preservatives and adulterants. Professor ROCKWOOD.

Second semester; one lecture and one laboratory period each week.

57 (*58*). GENERAL CHEMISTRY—A course of lectures and recitations covering both inorganic and organic chemistry. Mr. LINCOLN.

Throughout the year; three hours a week.

59 (*60*a.). QUALITATIVE ANALYSIS—A laboratory course. The student learns the methods of chemical manipulation and the use of apparatus, and also becomes acquainted with the action of reagents of the common chemicals upon each other. The course includes the chemical examination of water from a sanitary standpoint, each student making a number of analyses of various wholesome and polluted waters. Mr. LINCOLN, Mr. BRYDEN.

First semester, and first quarter of second semester; six hours each week.

60 *b*. VOLUMETRIC ANALYSIS—A laboratory course. Volumetric methods of quantitative analysis are of value because of the rapidity and ease with which they can be executed. The principal ones are taught and the student is given enough practice to familiarize him with them. Mr. LINCOLN, Mr. BRYDEN.

Second semester; second quarter. Six hours each week.

61 (*62*). CHEMICAL SEMINARY—This will be held once each week during the year and will be participated in by the instructors and graduate students of the department. Others who have done sufficient chemical work may be admitted with the permission of the head of the department. The primary aim will be to familiarize the student with the original sources of chemical knowledge, especially

those found in current literature. This will be done by the preparation of papers and reports, with their discussions and criticisms. Professor ROCKWOOD.

63 (*64*). CHEMICAL RESEARCH—This can be carried on by students who have had the essential preliminary work which includes a reading knowledge of French and German.

Courses are offered in

Physiological Chemistry. Professor ROCKWOOD.
Physical Chemistry. Dr. VON ENDE.
Organic Chemistry. Dr. KARSLAKE.

PHYSICS

PROFESSOR VEBLEN, PROFESSOR SMITH; MR. LORENZ, MR. KENT, MR. MUELLER.

A. COURSES FOR UNDERGRADUATES

1 (2). GENERAL LECTURES, RECITATIONS AND LABORATORY PRACTICE—This course is open to all students and may be taken without the mathematics of the freshman year. It is adapted to students desirous of a general knowledge of physics and who are neither taking special work in physics nor a technical course.

Throughout the year; lectures and recitations three times a week and laboratory work once a week, at 10:00. Professor SMITH and Mr. KENT.

41. MECHANICS, SOUND AND LIGHT—First semester recitations and lectures four times a week and laboratory once a week at 11:00. Professor SMITH, Mr. KENT, and Mr. ——.

42. HEAT, ELECTRICITY AND MAGNETISM—Second semester recitations and lectures three times a week and laboratory twice a week, at 11:00. Professor SMITH, Mr. KENT, and Mr. ————.

Courses 41 and 42 should be taken by all students intending to do special work in physics, and are required of all students in the engineering courses. They must be preceded by the mathematics of the freshman year.

3. PHYSICAL MEASUREMENTS—Laboratory work, two or more times a week, one semester. Mr. LORENZ.

4. MEASUREMENTS AND DETERMINATIONS OF CONSTANTS—Two or more times a week in the laboratory; one semester. Mr. LORENZ.

31 and 32. A course of weekly lectures, through the year, on units and constants, and the theory and action of some of the more important instruments. Designed especially for students taking courses 3 and 4. Professor VEBLEN.

33. ELECTRICITY—Especially for medical and dental students. Lectures and laboratory work. First semester; twice a week. Professor VEBLEN.

34. OPTICAL INSTRUMENTS—Their theory, action, and manipulation. Lectures and laboratory work; twice a week. Professor VEBLEN.

36. HEAT AND THERMODYNAMICS—Lectures and laboratory work; twice a week. Mr. LORENZ.

B. COURSES OPEN TO GRADUATES AND UNDERGRADUATES

18. LIGHT—This course requires a knowledge of calculus and should be preceded by courses 41, 42, 3, and 4.

Second semester; twice a week. Professor SMITH.

30. SOUND—This course presupposes the same preliminary preparation as does course 18.

Second semester; twice a week. Professor SMITH.

19. METEOROLOGY—Lectures; twice a week. Professor VEBLEN.

20. METEOROLOGY AND CLIMATOLOGY—Lectures; twice a week. Professor VEBLEN.

37 *(38)*. ELECTRICITY AND MAGNETISM — Calculus and courses 1, 2, 3, and 4, are prerequisites for this course.

Twice a week. Mr. LORENZ.

49. THEORETICAL MECHANICS—A general course in this subject consisting of daily recitations. It must be preceded by the calculus and should follow at least courses 41 and 42 in physics.

First semester, five times a week at 8:00. Professor SMITH.

21 *(22)*. SEMINARY—In the seminary the advanced students in physics will be expected to prepare and present formal papers along the lines of their special work.

Throughout the year, once a week.

C. COURSES PRIMARILY FOR GRADUATES

52. HYDROMECHANICS—Laws of pressure, equilibrium, and oscillation of floating bodies; conditions of equilibrium of a mass of rotating fluid, with application to the figure of the earth; equations of motion of a perfect fluid; waves; the motion of a solid in a fluid medium. This must be preceded by courses 31 *(32)*, 49 or their equivalent.

Second semester, alternate years; twice a week. Professor SMITH.

43. (a) Kinetic Theory of Gases. (b) Electricity in Gases.

First semester; twice a week. Mr. LORENZ.

23 *(24)*. SPECIAL RESEARCH—Open to students who have a sufficient preliminary knowledge of general physics, and who have the necessary experimental skill, acquired in a course similar to 3 and 4 above. In choosing this course the student must satisfy the instructors that he is sufficiently equipped to undertake research work; and the choice will of course be limited to such problems as the material facilities of the laboratory will make possible of solution.

25 *(26)*. THEORETICAL AND PRACTICAL STUDY OF SOME PARTICULAR GROUP OF PHENOMENA OR LAWS—Such a course may consist of critical study of the literature of the subject chosen, as the electro-magnetic theory of light, polyphase currents, terrestrial magnetism, etc. In all cases experimental work will be required where it will be useful or applicable.

MATHEMATICS

PROFESSOR WELD; DR. WESTFALL, DR. DODD, MR. BECK, MISS CRONIN

In the following statement, courses having odd numbers are given in the first semester, those with even numbers, in the second. The suffixes a and b refer to the first and second quarters of the semester respectively. The grouping and the sequence of courses for the first two years are as follows:

	GROUP (A)	GROUP (B)
Freshman	(Daily)	(M., Tu., W., Th.)
1st quar.	Algebra, 21a	Alg.I., 3a
2nd "	Trig., 23b	Trig., 7b
3rd "	Anal. Geom., 24	Alg. II., 6a
4th "	Anal. Geom., 24	Graphics, 10b
Sophomore		
1st quar.	Calculus, 25	Anal. Geom., 11a
2nd "	Calculus, 25	Calculus, 13b
3rd "	Calculus, 26a	Calculus, 14a
4th "	Theo. of Eqs., 28b	Calculus, 14b

	GROUP (C)	GROUP (D)
Freshman	(Tu., W., Th., F.)	(M., Tu., Th., F.)
1st quar.	Solid Geom., 1a	.....
2nd "	Alg. I., 3b	.....
3rd "	Trig., 8a	Alg. I., 4a
4th "	Graphics	Alg. II., 6b
Sophomore		
1st quar.	Anal. Geom., 11a	Trig., 7a
2nd "	Calculus, 13b	Anal. Geom., 11b
3rd "	Calculus, 14a	Calculus, 12
4th "	Theo. of Eqs., 16b	Calculus, 12

Advanced work in mathematics may be begun upon the satisfactory completion of any of the above groups, but students intending to specialize in this subject are advised to elect either group (A) or group (B).

Students in civil, sanitary, electrical, mechanical and mining engineering will be scheduled in group (A); one division of which is also open to other students desiring the most thorough training in mathematics.

Group (B) is open to all students who have had three years preparatory work in mathematics, including solid geometry, unless group (A) be prescribed by the course of study pursued.

If only the minimum preparation in mathematics be offered group (C) must be taken.

Group (D) is arranged for those entering at the opening of the second semester.

All courses will be given as indicated, provided the number of students applying shall warrant, except that the hours for the advanced courses are more or less subject to change.

A. COURSES FOR UNDERGRADUATES

1a. SOLID GEOMETRY—A course in solid geometry and mensuration for students who have not completed the work in the high school. First quarter; Tu., W., Th., F., at 10:00. Mr. BECK.

2b. SOLID GEOMETRY—The same as 1a. Fourth quarter.

Not given in 1905-'06.

3a. ALGEBRA I.—Exercises in the statement and solution of problems; the theory of the simple and of the quadratic equation; systems of simultaneous equations; ratio, proportion and variation; the theory of exponents; logarithms. First quarter; M., Tu., W., Th., at 9:00. Dr. DODD.

3b. ALGEBRA I.—The same as 3a. Second quarter; Tu., W., Th., F., at 10:00. Mr. BECK.

4a. ALGEBRA I.—The same as 3a. Third quarter; M., Tu., Th., F., at 2:30. Miss CRONIN.

6a. ALGEBRA II.—Progressions; properties of series and the development of functions into series; the binomial theorem; rudiments of the theory of equations. Third quarter; M., Tu., W., Th., at 9:00. Dr. DODD.

6b. ALGEBRA II.—The same as 6a. Fourth quarter; M., Tu., Th., F., at 2:30. Miss CRONIN.

7a. TRIGONOMETRY—Trigonometric functions and formulae; logarithmic functions; solution of right and oblique angled triangles, both plane and spherical; practical application to surveying, navigation and mensuration. First quarter; M., Tu., Th., F., at 1:30. Dr. DODD.

7b. TRIGONOMETRY—The same as 7a. Second quarter; M., Tu., W., Th., at 9:00. Dr. DODD.

8a. TRIGONOMETRY—The same as 7a. Third quarter; Tu., W., Th., F., at 10:00. Mr. BECK.

10b. GRAPHICS—The graphical representation of natural laws and of statistical and observational data; graphical and mechanical solutions of algebraic and transcenden-

tal equations; interpolation; Simpson's formula; map projection, etc. A course intended to summarize in a practical way the knowledge of mathematics which the student has thus far acquired and to introduce him to its simpler applications. It is especially designed to meet the needs of those about to begin laboratory work and will also be useful to those expecting to teach either mathematics or material science. Fourth quarter. Two divisions; M., Tu., W., Th., at 9:00 and Tu., W., Th., F., at 10:00. Dr. DODD, Professor WELD.

11a. ANALYTICAL GEOMETRY—Rectangular and polar coordinates; examples of loci; the circle, ellipse and hyperbola and their limiting forms; tangents, normals and asymtotes; co-ordinates in three dimensions. First quarter. Two divisions; M., Tu., W., Th., at 9:00 and Tu., W., Th., F., at 10:00. Mr. BECK, Dr. DODD.

11b. ANALYTICAL GEOMETRY—The same as 11a. Second quarter; M., Tu., Th., F., at 1:30. Dr. DODD.

12. CALCULUS—Differentiation; Taylor's theorem; indeterminate forms; maximum and minimum; tangents, normals and asymptotes; curvature and radius of curvature; integration; applications of integral calculus to problems in geometry, mechanics and physics. Second semester; M., Tu., Th., F., at 1:30. Dr. DODD.

13b (14a). CALCULUS—The same as course 12. Second and third quarters. Two divisions; M., Tu., W., Th., at 9:00 and Tu., W., Th., F., at 10:00. Mr. BECK, Dr. DODD.

14b. CALCULUS—The theory of plane curves. Continuous with the preceding courses in calculus and including the discussion of singular points, envelopes, involutes and evolutes, roulettes, pedals, etc. Fourth quarter; M., Tu., W., Th., at 10:00. Mr. BECK.

16b. THEORY OF EQUATIONS—Determinants; elimination; complex numbers; equations of higher degrees and their properties; symmetric functions of the roots; location of the roots; approximation to the roots of higher equations with numerical coefficients; solution of cubic and biquadratic equations. Fourth quarter; Tu., W., Th., F., at 10:00. Dr. DODD.

21a. ALGEBRA—Exercises in the fundamental operations and in factoring; simple and quadratic equations; systems of simultaneous equations; proportion and variation; progressions; the binomial theorem; exponential and logarithmic series; calculation by logarithms. First quarter. Three divisions; daily at 8:00, 11:00 and 1:30. Dr. DODD, Mr. BECK.

23b. TRIGONOMETRY—A course covering the elements of both plane and spherical trigonometry, with numerous applications. Second quarter. Three divisions; daily at 8:00, 11:00 and 1:30. Dr. DODD, Mr. BECK.

24. ANALYTICAL GEOMETRY—A general course in the analytical geometry of two and of three dimensions. The theory of algebraic equations will be studied during the second half of the last quarter. Second semester. Three divisions; daily at 8:00, 11:00 and 1:30. Dr. DODD, Mr. BECK.

25 (26a). CALCULUS—This course is similar in scope to 13b (14) but the several topics are more fully treated and the work is conducted with special reference to the requirements of technical students. First, second and third quarters. Two divisions; daily at 8:00 and 11:00. Dr. WESTFALL.

28b. THE METHOD OF LEAST SQUARES—The elementary principles of the subject will be developed and applied to such problems as are likely to arise in engineering practice. Fourth quarter. Two divisions; daily at 8:00 and 11:00. Dr. WESTFALL.

B. COURSES FOR GRADUATES AND UNDERGRADUATES

31. ADVANCED CALCULUS—A continuation of the elementary courses in calculus, devoted particularly to such topics as the extension of Taylor's series, the series of Lagrange, maxima and minima of functions of two or more variables, transformations of differential equations, variations, etc. First semester, three hours a week; Mon., Wed., Fri., at 10:00. Dr. WESTFALL.

32. DIFFERENTIAL EQUATIONS—A general course devoted to the methods of solution of ordinary differential equations. This is open to all students who have completed any one of the groups (A), (B), (C), or (D). Second semester, three hours a week; Mon., Wed., Fri., at 10:00. Dr. WESTFALL.

35 *(36)*. DETERMINATES AND MODERN GEOMETRY — Determinants, the theory of quantics; the principle of invariance; modern analytical geometry of two and of three dimensions. Throughout the year; Tu., Th., at 8:00. Professor WELD.

Not given in 1905-'06.

39 *(40)*. THE THEORY OF FUNCTIONS — Lectures, the works of Durège, Harkness and Morley, and others being used by the students for collateral reading. Throughout the year; Tu., Th., at 8:00. Professor WELD.

41 *(42)*. FUNCTIONS OF REAL COMPLEX VARIABLES —An advanced course in function theory. Throughout the year; Tu., Th., at 11:30. Dr. DODD.

Not given in 1905-'06.

43. DEFINITE INTEGRALS, including a discussion of the beta and gamma functions. Lectures. First semester, Tu., Th., at 10:00. Professor WELD.

44. ELLIPTIC INTEGRALS AND FUNCTIONS — Lectures, with problems and practical applications. Second semester; Tu., Th., at 10:00. Professor WELD.

Not given in 1905-'06.

49 *(50)*. THEORY OF THE POTENTIAL AND SPHERICAL HARMONICS—The potential function; Laplace's equations of continuity in rectangular, cylindrical and spherical coordinates; Green's transformation; velocity potential; plane wave motion; Fourier's series and integral; application of Fourier's series to problems in acoustics, heat and electricity; physical problems involving cylindrical, zonal and spherical harmonics. This must be preceded by courses 31 *(32)*, and 75 *(76)*, or their equivalent. Throughout the year; Tu., Th., at 11:00. Professor WELD.

55 *(56)*. DIFFERENTIAL EQUATIONS — An advanced course, including the theories of Sophus Lie. This must be preceded by course 31 *(32)*. First semester; three hours a week; Mon., Wed., Fri., at 2:30. Dr. WESTFALL.

60. THE THEORY OF SURFACES, with problems. This and course 66 will be given in alternate years. Second semester, two hours a week; Tu., Th., at 2:30. Dr. WESTFALL.

Not given in 1905-'06.

63. THE METHOD OF LEAST SQUARES, with numerous applications to the reduction of series of physical observations. First semester, two hours a week; Tu., Th., at 2:30, Professor WELD.

66. THE MATHEMATICAL THEORY OF LIFE INSURANCE — This and course 60 will be given in alternate years. Second semester, two hours a week; Tu., Th., at 2:30. Dr. WESTFALL.

67 *(68)*. VECTOR ANALYSIS—A course based upon modern developments of the subject. Lectures and collateral reading. Throughout the year; Tu., Th., at 11:00. Dr. DODD.

99 *(100)*. THE MATHEMATICAL SEMINARY is conducted for the benefit of students making a special study of mathematics, and is open to all who have completed elementary calculus. The topics upon which papers are prepared under the direction of the several instructors are such as are suggested by the regular work of the various courses. Throughout the year; Wednesday, 7:30 P. M.

THE LOWDEN MATHEMATICAL PRIZE

Competition for the Lowden mathematical prize of fifty dollars ($50.00) for excellence in mathematics, established by Mr. Frank O. Lowden, of Chicago, is open to all students who are about to complete in course the work of the freshman and sophomore years in mathematics, the last year of such work having been done at this University in the regular classes.

The examination upon which the prize is to be awarded will be conducted by the professor of mathematics, and will be held in May, not later than the second Saturday preceding the opening of commencement week. Candidates should prepare for examination in the following subjects: Algebra, plane trigonometry, analytical geometry of two dimensions, the elements of differential and integral calculus.

The prize will be awarded by a committee, the members of which shall be the professors of mathematics, engineering and physics in the State University of Iowa, and two others to be appointed by the president of the University. It may be equally divided between not more than two candidates, or may be withheld if it shall appear that the work of no candidate is of a superior order of merit.

ASTRONOMY

PROFESSOR WELD; MR. BECK.

The first year of either of the groups (A), (B), (C) in mathematics (See p. 179), or its equivalent, is prerequisite to any of the courses in astronomy. Courses 101 (102) and 103 (104) may be taken either simultaneously or in succession, though the latter will not be given in 1905-1906.

The University is provided with a small but well equipped students' observatory.

101 (102). GENERAL ASTRONOMY—A course of lectures on descriptive astronomy for the general student. This course may be supplemented by course 1 (2) in geology, which is given at the same hour, on Tuesdays and Thursdays.

Three lectures a week, throughout the year; Mon., Wed., Fri., at 9:00.

103 (104). PRACTICAL ASTRONOMY — The student is taught the use of the sextant, transit instrument, clock, chronograph, etc.; the arrangement of the *American Ephemeris and Nautical Almanac;* and the general principles of time, latitude, longitude, and azimuth determination. The theory of the equatorial telescope with the position micrometer is also explained and illustrated.

Throughout the year; Tu., Th., at 9:00; supplemented by work at the observatory.

Not given in 1905-1906.

108. ASTRONOMY AND GEODESY—A course for engineering students. Special attention will be given to methods of time, longitude, latitude, and azimuth determinations by means of portable instruments.

Second semester only; Mon., Wed., Fri., at 11:00, with two evening sessions per week during the fourth quarter.

ENGINEERING

PROFESSOR RAYMOND; PROFESSOR MAGOWAN, PROFESSOR WILDER, DR. WELLS, PROFESSOR WOODWARD, PROFESSOR ———, MR. LAMBERT, MR. BRYDEN, MR. SHAFF.

1. MECHANICAL DRAWING—Use of instruments; lettering; geometrical constructions; orthographic, isometric, and cabinet projections; sections and intersections of solids; developments of simple surfaces; conventional methods of representing bolts and nuts, sections of engineering materials, dimension lines, and shade lines; line shading; use of flat and graduated tints applied with brush; perspective; tracing and blue-printing. Professor ————.

First semester; fifteen drawing room hours a week.

2. DESCRIPTIVE GEOMETRY—Problems on the point, line, and plane; single and double curved surfaces; warped surfaces; shades and shadows; stereotomy. Prerequisite: Engineering 1. Professor ————.

Second semester; three class room hours and six drawing room hours a week.

3 (4). MACHINE DRAWING—Freehand sketches of machine parts; finished detail and assembled drawings of whole machines, intended to illustrate present industrial practice. This course will be correlated with the course in shopwork and will also serve to acquaint the student in a practical way with the details of machines whose theory will be studied later. With this object, special use will be made of the steam engine. Prerequisite: Engineering 2. Professor ————.

Throughout the year; three hours Saturday forenoon.

6. MACHINE DRAWING—A brief course covering about half of courses 3 and 4. Prerequisite: Engineering 2. Professor ————.

Second semester; three hours Saturday forenoon.

7 (8). SHOPWORK—Instruction in the theory of tools and practice in their use; arrangement, installation, and care of machinery; methods of economical shop production. The work covers woodworking hand tools and power saws,

planer and lathe; forging; foundry work; pattern making; machine shop practice; care and operation of steam boilers and engines. Mr. SHAFF.

Throughout the year; fifteen hours a week.

9 (10). SHOPWORK—Brief course in the work of courses 7 and 8. Mr. SHAFF.

Throughout the year; nine hours a week.

12. SURVEYING—Theory and use of field instruments; leveling; farm and city surveying; United States public lands; topographical surveying; simple curves; volumes. Prerequisites: Mathematics 21a, 23b. Professor RAYMOND, Professor MAGOWAN, Mr. ————.

Second semester; the equivalent of two and one-half class room hours a week, with field work on Saturday forenoons.

13. SURVEYING—Hydrographic, mine and railroad surveying. The railroad surveying includes preliminary and location surveys; simple, compound and spiral curves; the laying out and measurement of work; the making of maps, profiles and estimates. Prerequisite; Engineering 12. Professor RAYMOND, Professor MAGOWAN, Mr. ————.

First semester; the equivalent of two and one-half class room hours a week and field work Saturday forenoons.

15. STRENGTH OF MATERIALS—Mathematical theory of forces in beams, columns, and shafts, with the resultant deformations. Physical characteristics of the materials of engineering as determined by tests. Prerequisites: Mathematics 25 and 26a, Physics 41 and 42; to be accompanied by Physics 49. Professor WOODWARD.

First semester; five class room hours a week, with work in the testing laboratory during the second quarter.

18. STRESSES IN FRAMED STRUCTURES—This course embraces a study of both analytical and graphical determinations of stresses in roof trusses and bridges. Plate girders, parallel and curved chord bridges, draw spans, and cantilevers are treated. Prerequisite: Physics 49. Mr. LAMBERT.

Second semester; three class room hours and six drawing room hours a week.

19 (20). STRUCTURAL DESIGN—This course will include a thorough study of the details of existing structures, the

data to be obtained in the field, and from blue prints and photographs; complete designs of a girder, a truss, and an arch bridge; the theory and practice of the design of retaining walls, dams, and foundations; reinforced concrete will be fully treated. Prerequisites: Engineering 15 and 18. Mr. LAMBERT.

Throughout the year; five periods a week, recitation and drawing room work as required.

22a. HIGHWAYS—A study of the good roads problem from the standpoints of economy and administration; construction and maintenance of country highways and city streets and walks; cleaning of city streets; desirability and cost of the various kinds of pavements, together with the consideration of street grades and cross sections; methods of asessing costs of construction. Professor MAGOWAN.

Second semester; five hours a week for four weeks.

23a. CONTRACT LAW AND SPECIFICATIONS—A study of the fundamental principles of contract law; the application of these principles in formulating and interpreting contracts; the critical study of the form and matter of specifications for engineering works. Professor MAGOWAN.

First quarter; four hours a week.

25. RAILROAD ENGINEERING—Train, curve and grade resistance; momentum grades; hauling capacity of locomotives; operating expense; economics; railroad location and construction. Prerequisites. Engineering 13, Physics 49. Professor RAYMOND.

Second quarter; five hours a week.

26a. HYDRAULICS, HYDROSTATICS AND HYDRODYNAMICS—Theory and measurement of flow through orifices, tubes and pipes, over weirs, in conduits, rivers, weirs and canals; text book work with illustrative laboratory practice. Prerequisite: Physics 49. Professor MAGOWAN.

Third quarater; five hours a week.

26b. HYDRAULIC MACHINERY—A study of the theory and design of pumping machinery, water wheels, turbines, and impulse wheels. Prerequisites: Engineering 3 and 4, 15 and 26a. Professor WOODWARD.

28b. WATER SUPPLY—A study of the sources of public water supplies; the methods of collecting, storing and puri-

fying them: standards of purity of potable water; simple tests: the principal features of water works construction, including filtering plants, reservoirs and distribution systems. Prerequisite: Engineering 26a. Professor MAGOWAN.

Fourth quarter; five hours a week for two weeks.

30b. SEWERAGE—Elements of design of sewers and sewer systems; the cleaning of cities and towns; separate and combined sewer systems; methods of sewage disposal. Sewer details as found in modern plans and specifications are carefully studied and attention is paid to the element of cost. Prerequisite: Engineering 26a. Professor MAGOWAN.

Fourth quarter; five hours a week for two weeks.

32. SANITARY INSPECTION, DESIGN AND CONSTRUCTION—A study of house plumbing methods; construction, maintenance and inspection of plumbing fixtures and systems; problems in design; designs for estimates of cost of water supply and sewerage systems and purification plants. Prerequisites: Engineering 26a, 28b, 30b. Professor MAGOWAN.

Second semester; three hours a week during third quarter, five hours a week during fourth quarter.

33 (34). KINEMATICS—General principles of relative motion and transmission of motion; belts; gearing; cams; couplings; parallel motions. Prerequisites: Engineering 3 and 4, and 7 and 8, Mathematics 25 and 26a; to be accompanied by Physics 49. Professor WOODWARD.

Throughout the year; three hours on Saturday forenoons.

35. MACHINE DESIGN—The elementary principles of machine design, including a consideration of the form, strength, and proportion of parts. Prerequisites: Engineering 3 and 4; to be accompanied by Engineering 15. Professor WOODWARD.

First quarter; three class room hours and six drawing room hours a week.

36. THEORY OF HEAT ENGINES—Thermodynamics of perfect gases with applications to the production and use of compressed air; thermodynamics of steam with applications to the steam engine; valve and valve diagrams; governors;

fuels; furnaces and boilers; gas engines, hot air engines, and refrigerating machinery. Prerequisites: Physics 41, 42 and 49. Engineering 33 and 34. Professor WOODWARD.

Second semester; five class room hours a week.

37. FACTORY MANAGEMENT — Lectures and assigned readings upon modern methods of factory administration, corporate management and industrial organization. Professor WOODWARD.

Seecond quarter; two class room hours a week.

38. THERMODYNAMICS AND PRIME MOVERS—Brief course in thermodynamics; general principles underlying the design of boilers, steam engines, gas engines and water motors. Prerequisites: Physics 41, 42 and 49, Engineering, 26a. Professor WOODWARD.

Second semester; five hours a week.

39. ARCHITECTURE AND BUILDING CONSTRUCTION—History of Architecture and principal details of building construction. Professor ————.

First quarter; three hours a week.

40b. HEATING AND VENTILATION—Theory and design of heating systems, using both direct and indirect radiation. To be accompanied by Engineering 36. Professor WOODWARD.

Fourth quarter; five class room hours a week for four weeks.

41 (42). MECHANICAL ENGINEERING LABORATORY—Calibration of instruments; indicator practice; measurement of power by transmission dynamometer and pony brake; calorimetry; efficiency tests of separate machines and of whole plants; boiler tests with calorimetric tests of fuels and flue gas analysis; tests of hydraulic machinery. Prerequisite: Engineering 36. Professor WOODWARD.

First quarter; three hours a week: and fifteen hours a week for the remainder of the year. Students in Electrical Engineering take this course six hours a week through the second, third and fourth quarters.

43 (44) MECHANICAL ENGINEERING DESIGN—Design of steam boilers and chimneys; steam engine design; design

of special machines; planning of power plants. Prerequisites: Engineering 35 and 36. To be accompanied by Engineering 41 and 42. Professor WOODWARD.

Throughout the year; the equivalent of five semester hours a week, classroom hours and drawing room hours as required.

51 (52). ELEMENTARY THEORY OF ELECTRICITY AND MAGNETISM AND THE DIRECT CURRENT DYNAMO—The properties of electric and magnetic circuits, periodic curves and electro magnetism, with the theory, construction, operation and testing of direct current dynamos, and laboratory practice to illustrate the subject matter. The solution of illustrative problems will be an important part of the work. Prerequisites: Physics 41 and 42, and Mathematics 25 and 26a; to be accompanied by Physics 49 and Engineering 15. Assistant Professor WELLS, Mr. ————.

Throughout the year; four classroom exercises and one laboratory period a week.

53. ELECTRO DYNAMICS, ELECTRO MAGNETISM AND MAGNETIC THEORY—Prerequisities: Physics 41 and 42, Mathematics 25 and 26a. Assistant Professor WELLS, Mr. ———.

First semester; four classroom exercises and one laboratory period a week.

54. ELECTRICAL ENGINEERING PRINCIPLES AND PRACTICE —Generators; motors; transformers; primary and secondary batteries; central stations; and the generation, transmission and utilization of electric power. Prerequisites: Engineering 53 and Physics 49. Assistant Professor WELLS, Mr. ————.

Second semester; four classroom exercises and one laboratory period a week.

55 *(56)*. THEORY AND PRACTICE OF ELECTRICAL ENGINEERING—This course is a continuation of 51 and 52, treating of the generation of electric power, power plants, transmission, static and rotary transformers, electric lighting and traction, telephone and telegraph systems, with particular attention to the mathematical theory of alternating currents. Prerequisites: Engineering 51 and 52, and Mathematics 25 and 26a. Assistant Professor WELLS.

Throughout the year; five classroom exercises a week.

57 *(58)*. ELECTRICAL ENGINEERING LLBORATORY — This course will include electrical and magnetic measurements, tests of insulators and machinery, and photometry. Considerable time will be spent on alternating current measurement. Prerequisites: Engineering 51 and 52; to be accompanied by Engineering 55 and 56. Assistant Professor WELLS, Mr. ————.

Throughout the year; first quarter, one period, the remainder of the year three periods a week.

61 *(62)*. THE MATHEMATICAL THEORY OF ELECTRICITY AND MAGNETISM—Prerequisites: students admitted on approval of the lecturer. This course will not be given to less than two. Assistant Professor WELLS.

Throughout the year; not less than three lectures a week.

63 *(64)*. RESEARCH—Opportunity for research in electricity and magnetism will be provided so far as the facilities of the department allow, for all qualified members of the graduate college who desire it. Those wishing to do such research work should consult the instructor. Assistant Professor WELLS.

76b. ORE DRESSING—The principles and theory of ore dressing; hand dressing with continuous belts; crushing; jigging; slime concentration; milling; coal washing. Ample practice in the mill forming a part of the University equipment. Mr. BRYDEN.

Fourth quarter; five hours a week.

77 (78). MINING—Excavating; prospecting by pits and borings; support of excavations; coal mining; vein mining. Discussion of machinery and appliances in mine equipment; hoisting; drainage; air compression; ventilation; underground haulage; design of mine plant. Mr. BRYDEN.

Throughout the year; five hours a week.

80. Field courses in mining will be given at the end of the sophomore and junior years. During the summer of 1905 the work will include two weeks in the coal mines of southern Iowa where special attention will be directed to mine timbering, surveying and ventilation; two weeks in the lead

and zinc district of Joplin, Missouri; and a week at the customs smelter at Omaha. The summer of 1906 will probably be spent in the Black Hills.

100. THESIS—The thesis consists of a complete design for an engineering structure or a report upon an original investigation of a technical problem.

MILITARY SCIENCE AND TACTICS.

COLONEL GEORGE RITTER BURNETT, WEST POINT, '80.

(First Lieutenant U. S. Army, Retired).

Instruction in these branches is prescribed for all male students in the College of Liberal Arts during the first and second years except such as are specially excused. Students who for any valid reason, may desire to be excused must appear before the military committee of the faculty, on the first Saturday after the opening of the semester at 10 A. M. and present their reasons in writing.

Those claiming exemption on account of physical disability, when the same is not apparent, must present to the committee a certificate from the battalion surgeon, and those desiring credit for work done at some recognized military institution must present their credentials at this time. Students entering the University for the first time with junior or senior standing are excused from this course but may register for it if they so desire.

All students not excused as above provided will report for duty, to the commandant at the Armory at 4:20 P. M. on the Monday immediately following the beginning of the semester.

THE NEW ARMORY.

The new Armory erected at a cost of thirty-five thousand dollars, was dedicated February 22, 1905, and affords excellent facilities for the full course in military instruction prescribed by the War Department, during the winter period.

ORGANIZATION.

The department is organized for instruction into an infantry battalion, consisting of four companies, a band, and the requisite staff officers. The commissioned officers

are selected from the seniors and juniors, the sergeants from the juniors and sophomores, and the corporals from the sophomore and freshman classes. The selection is based on the military record of each individual as evidenced by punctuality and regularity in attendance, for both practical and theoretical instruction, military bearing in, and out of ranks, and the general aptitude manifested for the work.

UNIFORM.

The prescribed uniform consists of a dark blue blouse and trousers, regulation army cap and plain white gloves, and is only worn while on duty. It can be had on short notice from a number of tradesmen of the city at a cost of from $10.50 to $13.50. The uniform of the commissioned officers is somewhat more expensive and includes the U. S. Army officer's cap, shoulder straps, sword and belt, and white lisle thread gloves.

COURSES OF INSTRUCTION.

Courses of instruction are both practical and theoretical.

The *practical* course is as follows: Infantry Drill Regulations through the school of the battalion in close and extended order. Advance and rear guards, and outposts. Marches. The ceremonies of battalion review, inspection, parade, guard-mounting and escort to the colors. Infantry target practice. Instruction in first aid to the injured.

The practical instruction in infantry drill, for all classes, will be given three hours a week during the spring and fall quarters, and one hour a week during the winter quarter, from 4:30 to 5:30 P. M.

Target practice, after preliminary instruction in gallery practice in the armory is had, will take place on the university range, to the extent of the allowance of ammunition, on favorable afternoons, during the fall and spring quarters at such hours as the commandant may deem most convenient.

First aid to the injured will be given during the winter quarters in the armory, as part of the regular drill.

The *theoretical* instruction will only be given during the winter term, and will consist of two hours recitation a week, for each class, in the afternoons, at such hours as the commandant may arrange. The freshmen will be instructed in the United States drill regulations; the sophomores in the *Manual of Guard Duty;* and in the *Small-arms Firing Regulations*, Parts 1, 2, and 7, and in the *Articles of War*, with special reference to certain paragraphs designated by the War Department, and the juniors in keeping the following records: enlistment and discharge papers, including descriptive lists; morning reports; field and monthly returns; muster rolls; rosters; ration returns; requisitions; property returns. The seniors will also be required to act as assistant instructors.

Aside from the juniors selected for officers, the work of the third year is optional.

The professor of military science and tactics may, in his discretion, substitute for a part of the theoretical instruction, lectures on subjects of military interest, not to exceed one a week.

Two semester credits will be allowed for each year of military work, provided at least two full years of the course, are taken, but no student shall receive more than six semester credits for military work.

The four credits allowed for the required military course are essential to graduation, and cadets who, for any reason, are excused from this work, must earn an equivalent amount in electives, offered by the College of Liberal Arts.

ORGANIZATION OF THE MILITARY DEPARTMENT

THE BATTALION—1904-1905

Colonel George Ritter Burnett, - - Commandant
Major C. P. Schenck, - - Assistant Commandant

COMMISSIONED STAFF

Major J. G. Mueller, M. D., - - Battalion Surgeon
Captain H. M. Pratt, - - - - Quarter-Master
Captain H. E. Danielson, - Inspector of Rifle Practice
First Lieut. B. F. Wyland - - - - Adjutant
First Lieut. H. L. Moon - - Commissary Officer
First. Lieut. C. W. Ross, - - - Ordnance Officer

NON-COMMISSIONED STAFF

H. Price, - - - - - - - Sergeant-Major
E. H. Hubbard, Jr., - - Quarter-Master Sergeant
G. D. Koser, - - - - - Ordnance Sergeant

COLOR GUARD

L. Lorenzon, - - - - - - Color Sergeant
C. C. Fritzel, - - - - - - - } Sergeants
E. A. Siemen, - - - - - - - }

COMPANY "A"

R. B. Champion, - - - - - - - Captain
O. V. Wille, - - - - - - - First Lieut.
I. I. Struble, - - - - - - Second Lieut.
R. O. Hutchison, - - - - - First Sergeant

P. M. Payne, - - - - - - - }
R. F. Hannum, - - - - - - - } Sergeants
F. C. Lemon, - - - - - - - }
W. B. Joy, - - - - - - - - }

R. C. Kramer, - - - - - - }
H. Veblen, - - - - - - - - } Corporals
E. P. Churchill, - - - - - - - }
J. C. Hollman, - - - - - - }

COMPANY "B"

H. E. Boies, - - - - - - - - Captain
H. H. Phelps, - - - - - - - First Lieut.
R. B. Burnquist, - - - - - Second Lieut.
H. W. Gregory, - - - - - - First Sergeant

W. D. Middleton, - - - - - - }
R. E. Jones, - - - - - - - - } Sergeants
G. S. Banta, - - - - - - - - }
H. M. Pahlas, - - - - - - - - }

D. C. Rhynsburger, - - - - - }
F. A. Will, - - - - - - - - } Corporals
O. J. Emmons, - - - - - - - }
M. R. Stone, - - - - - - - - }

COMPANY "C"

M. W. Emmert, - - - - - - - Captain
L. W. Lovell, - - - - - - - First Lieut.
H. C. Anderson, - - - - - - Second Lieut.

N. S. Bevins, - - - - - - - First Sergeant

P. D. Macbride, - - - - - - -
E. J. Hemmer, - - - - - - -
T. T. Rider, - - - - - - - - } Sergeants
O. V. Davidson, - - - - - - -

L. L. Quigley, - - - - - - -
R. J. Glass, - - - - - - - -
W. A. Sanford, - - - - - - - } Corporals
E. Soukup, - - - - - - - -

COMPANY "D"

W. W. Fay, - - - - - - - - Captain
F. E. Snedicor, - - - - - - - First Lieut.
L. McAuliff, - - - - - - - Second Lieut.

F. E. Koeper, - - - - - - First Sergeant

G. Bos, - - - - - - - - -
C. R. Duncan, - - - - - - -
R. F. French, - - - - - - - } Sergeants
E. C. Ubersole, - - - - - - -

J. F. Meyers, - - - - - - -
L. Hoth, - - - - - - - - -
L. L. Williams, - - - - - - - } Corporals
R. A. Oliver, - - - - - - - -

THE BAND

Captain F. R. Molsberry, - - - - Director
First Sergeant A. C. Wallace, - - - Drum-Major
Sergeant O. E. Van Doren, - - - Chief Musician
Sergeant T. V. White, - - - - Chief Trumpeter

MILITARY FIELD DAY, MAY 18TH, 1904

The "Coast Sword," awarded annually to the Captain of the best drilled company, was won by Captain C. P. Schenck, Company "D."

The "Colonel Burnett Medal" for superiority in marksmanship, for 1904, was awarded to Major J. F. Kirby, Inspector of Rifle Practice.

The "H. J. Wieneke Medal" for excellence in Infantry Drill, was awarded to Captain E. R. Johnston, Company "B."

The "C. Yetter Medal" No. 1, for the best drilled junior, was awarded to Cadet Sergeant, H. L. Phelps, Company "B."

The "C. Yetter Medal" No. 2, for the best drilled sophomore was awarded to Cadet Corporal E. J. Hemmer, Company "C."

The "Sueppel Medal" for the best drilled freshman, was awarded to Cadet private S. L. Lefevre, Company "A."

JUDGES OF THE COMPETITIVE DRILLS

Captain S. G. Jones, 11th U. S. Cavalry, Acting Inspector General, was the judge of the company drills, and Major R. P. Howell and Captain George W. Ball, Jr., of the 54th, and First Lieutenant Roy A. Cook of the 53rd Regiment, Iowa National Guard, served in the same capacity for the individual competition.

PHYSICAL TRAINING

PROFESSOR CHALMERS; MISS KASTMAN, MR. RULE, MR. DELANEY

The department of physical training offers excellent opportunities to the students of the University for physical education and development. Within the past year the new Armory and Athletic Pavilion has been completed and thoroughly equipped with the best and most modern apparatus, and offers every inducement for training in gymnastics and out-door athletics.

The Pavilion is commodiously furnished with baths, lockers, and dressing rooms. A separate room containing lockers, baths, and equipment has been set apart for the athletic teams.

The floor of the main room of the building will be used for both military drill and class work in physical train-

ing. This room which is 77x125 feet, contains an indoor baseball cage and nets, two basket ball fields, a tennis court, and a hand ball court, and is surrounded by a concave, composition cork covered track, six feet wide and thirteen laps to the mile. Every opportunity is offered for the development of mid-winter and spring sports.

Physical training is required of women during their first and second years. Three years of physical training including military drill is required of the men of the College of Liberal Arts.

Voluntary classes will be organized and each class will meet three times a week. The privilege of entering these classes is extended to all students of the several colleges of the University.

A physical examination will be required and a record kept of the development of all students who take the physical work in the pavilion. Special work will be prescribed for those needing special attention. The work of the classes will be varied and the object of the work will be recreative and to meet the needs of the student for the building up of strong healthy bodies.

Close Hall contains a finely equipped gymnasium for the exclusive use of the women attending the University. In connection with the main gymnasium room are dressing rooms, shower baths and 192 lockers.

The apparatus consists of chest weights, traveling rings, flying rings, ladders, vaulting bars, dumb bells, Indian clubs, wands, bounding balls, basket balls and medicine balls. Music is used in all class drills.

The aim and purpose of the work is general physical development to promote health, grace, and poise of bearing. The training is not confined to one system but selects the best elements of all the different systems as taught by the Sargent Normal School of Physical Training.

The gymnasium suit for women requires four yards of double width (54 in.) black brilliantine or serge and consists of three pieces. Butterick's pattern, No. 4509 may be used as a guide in making the suit. Gymnasium shoes are also required.

The work is required of all first and second year students. Each student is given a careful physical examination that the work may be adapted to individual needs and that no student may have more work than she is physically able to do.

The first year students are required to meet in the gymnasium on the first Friday after the opening of the year, at 2:30 P. M. The second year students will meet on the same day at 4:30 P. M. Four hours credit is given for two years of work in the department.

ACCREDITED HIGH SCHOOLS

The board of regents has adopted the following plan for general high school inspection:

1. Any school may be placed upon the accredited list upon application of its superintendent or principal, and its board of directors, provided the faculty of the College of Liberal Arts is satisfied as to its (*a*) course of study, (*b*) methods of teaching, (*c*) facilities for instruction.

2. The course of study of such a school must be adapted to fitting its graduates for one or more of the collegiate courses of the University, or it must be in the direct line of such preparation.

3. All accredited schools shall be inspected at the pleasure of the University, the expense of the inspection to be borne by the University.

4. The authorities of accredited schools should report annually to the University all changes made in the courses of study and submit a list of names of the instructors employed in the high school with subjects taught by each.

The following revised rules governing the accrediting of high schools have been adopted by the faculty of the College of Liberal Arts, and are now in force. The attention of the authorities of accredited schools is called to the revised rules in order that they may make such changes in their courses of study and in their plans of work as will enable them to conform fully to the rules.

RULES GOVERNING THE ACCREDITING OF HIGH SCHOOLS

High schools meeting the following conditions may, at the option of the faculty of the College of Liberal Arts, be accredited as making full preparation for one or more college courses; and graduates of such schools will be admitted to the University without being subject to examination in those preparatory subjects for which proper certificates are presented.

1. The course of study should be not less than four years of thirty-six weeks each in length, following an elementary course not less than eight years in length.

2. The course of study should require of each pupil not more than four recitations daily.

3. The entire time of at least three teachers should be given to instruction in high school branches.

4. The quality of the instruction given and the character of the text-books used should be approved by the faculty.

5. Schools seeking considerable credit in science should demonstrate their ability to do successful laboratory work.

6. Schools seeking considerable credit in history and English should give evidence of a special laboratory equipment for teaching these branches.

Private academies, seminaries, normal schools, or other secondary schools meeting the conditions mentioned above, or their equivalent, may be accepted on the same basis as high schools.

The University, for the present, does not publish a list of accredited schools, but each school so accredited will be kept informed of its standing with the University.

UNIVERSITY EXTENSION

The State University of Iowa was among the first in the United States to attempt to popularize higher education by organizing courses of lectures by University professors at points remote from the institution. For years this work has been carried forward with no small success in all the more important cities of Iowa. As will be seen by reference to the special announcement on this subject, the University offers an unusually extended list of topics to those seeking lectures of University grade. Within certain obvious limits, all the best that is offered at Iowa City, is at the service of every community in Iowa.

In connection with the courses of lectures offered, classes may be organized and systematic work undertaken leading in due process to University credit.

Many of the lectures, especially those pertaining to subjects scientific, are illustrated, and, with little additional cost, a stereopticon is sent with the lecturer to any center.

All interested are referred to the announcement of University extension lectures, to be had by addressing the Secretary or the Director of University Extension, Iowa City, Iowa.

THE GRADUATE COLLEGE

THE GRADUATE COLLEGE

†FACULTY

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Willliams.

President, 1899. * 608 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth; LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
32 Bloomington St. (108 Liberal Arts)

SAMUEL CALVIN, M. A., 1874; LL. D., 1904; Cornell College; PH. D., 1888, Lenox; F. G. S. A,

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

GEORGE THOMAS WHITE PATRICK, B. A., 1878, Iowa; B. D., 1885, Yale; PH. D., 1888, Johns Hopkins.

Professor and head of the Department of Philosophy, 1887.
704 N. Dubuque St. (209 Liberal Arts)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor of Experimental Physics. and Secretary of the Faculty of the College of Liberal Arts, 1883.
707 N. Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, *Director of the School of Applied Science, 1896. 612 N. Dubuque St. (113 Liberal Arts)

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†The faculty of the University numbers over two hundred professors, instructors and assistants. The following list contains the names of those in the depnrtmen's offering courses of instruction for graduate students.

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

CHARLES CLEVELAND NUTTING, B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1886.
922 E. Washington St. (304 Science Hall)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor and Head of the Department of Political Economy and Sociology and Director of the School of Political and Social Science, 1889.
11 E. Bloomington St. (205 Liberal Arts)

ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A., 1901, Amherst; M. D., 1895, Iowa; PH. D., 1904, Yale.

Professor and Head of the Department of Chemistry and Toxicology, 1888. 1011 Woodlawn. (Chemical Laboratory)

WALTER LAWRENCE BIERRING, M. D., 1892, Iowa.

Professor of Theory and Practice and Clinical Medicine, and Secretary of the Faculty, College of Medicine, 1893.
Cor. Governor St. and Iowa Ave. (Laboratory Hall)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Professor of American History, and Head of the Department, 1894.
629 N. Dubuque St. (222 Liberal Arts)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1893. 311 Ronalds St. (120 Liberal Arts)

GILBERT LOGAN HOUSER, B. S., 1891; M. S. 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Biology, 1892.
422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895. 219 N. Clinton St. (202 Liberal Arts)

WILLIAM ROBERT WHITEIS, B. S., 1892; M. D., 1895; M. S., 1895, Iowa.

Professor of Histology and Embryology in the College of Medicine, 1898.
220 S. Johnson St. (Histological Laboratory.)

LEE WALLACE DEAN, B. S., 1894; M. S., 1896; M. D., 1896, Iowa.

Professor of Otology and Ophthalmology, 1898.
8 Bloom Terrace. (University Hospital)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.

Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

LEONA ANGELINE CALL, B. A., 1880; M. A., 1883, Iowa.
Professor of Greek Language and Literature, 1885.
21 N. Dubuque St. (106 Liberal Arts)

THE REV. HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.
Professor of Public Speaking, 1900.
308 N. Capitol St. (312 Liberal Arts)

THE REV. ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, I. B.
Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty, 1900. 7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.
Professor and Head of the Department of Education; Director of the Summer Session, 1900.
1019 College St. (217 Liberal Arts)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.
Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890. 529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.
Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.
Professor of Psychology, 1897.
204 Fairchild St. (211 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.
Professor of European History, 1900.
222 Fairchild St. (315 Liberal Arts)

JOHN FRANKLIN BROWN, B. PH., 1889; M. A., 1895, Earlham; PH. D., 1896, Cornell.
Professor in Education, and Inspector of High Schools, 1901.
215 Fairchilds St. (216 Liberal Arts)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.
Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894.
911 Iowa Ave. (303 Science Hall)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.
Professor of Petrology, Economic Geology and Mining, 1902.
603 N. Dubuque St. (106 Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.
Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR GEORGE SMITH, B. PH., 1891; M. A., 1895, Iowa.
Professor of Physics and Mechanics, 1893.
West Side. (Hall of Physics)

JOHN THOMAS MCCLINTOCK, B. A., 1894, Parsons; M. D., 1898, Iowa.
Professor of Physiology in the Colleges of Medicine, 1897.
425 Iowa Ave. (Physiological Laboratory)

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.
Professor of Commerce and Statistics in the Department of Political Economy and Sociology, 1898.
505 Washington St. (209 Liberal Arts)

HENRY ALBERT, B. S., 1900; M. S., 1902; M. D., 1902, Iowa.
Professor of Pathology and Bacteriology, 1901. (Laboratory Hall.)
120 E. Market St.

WILLIAM GALT RAYMOND, C. E., 1884, Washington University.
Professor of Civil Engineering and Director of the School of Applied Science, 1904.
606 S. Johnson St. (17 Liberal Arts)

SHERMAN MELVILLE WOODWARD, M. S., 1893, Washington University; M. A., 1896, Harvard.
Professor of Steam Engineering, 1904.
4 Bloom Terrace. (Engineering Hall)

GEORGE T. FLOM, B. L. 1893, Wisconsin; M. A., 1894, Vanderbilt; PH. D., 1899, Columbia.
Acting Professor in charge of Scandinavian Languages and Literatures, 1900. 609 Summit St. (10 Liberal Arts)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.
Assistant Professor of German, 1892.
308 East Burlington St. (102 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.
Assistant Professor of German, 1898.
225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.
Assistant Professor of French, 1901.
127½ S. Dubuque St. (120 Liberal Arts)

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.
Assistant Professor in charge of Electrical Engineering, 1903. 330 N. Linn St. (Electrical Engineering Hall)

HERBERT CLIFFORD DORCAS, B. PH., 1895, Iowa; M. A., 1903, Columbia.
Assistant Professor of Education, University Examiner, and Registrar, 1895. 429 Ronalds St. (106 Old Capitol)

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A. 1880, Iowa; LL. D. 1904, Coe College.
Lecturer on Education, 1891. Cedar Rapids, Iowa

LUTHER ALBERTUS BREWER, B. A., 1883; M. A., 1886, Pennsylvania College.
Lecturer on Journalism, 1900. Cedar Rapids, Iowa

CARL LEOPOLD VON ENDE, B. S., 1893, M. S., 1894, Iowa; PH. D., 1899, Goettingen.
Instructor in Chemistry, 1899. (Chem. Lab'y)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.
Instructor in Mathematics, 1899. (12 Liberal Arts)

*SIVERT N. HAGEN, B. A., 1896, Luther College; PH. D., 1900, Johns Hopkins.
Instructor in English, 1900.

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.
Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Biology, 1898.
120 E. Market St. (104 Science Hall)

SAM BERKLEY SLOAN, B. A., 1899, Nebraska.
Instructor in English, 1899.
506 N. Linn St. (118 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.
Instructor in Political Science, 1902.
120 N. Dodge St. (317 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.
Instructor in Sociology and Economics, 1902.
228 N. Capitol St. (205 Liberal Arts)

ALDEN ROBBINS HOOVER, B. S., 1902, Iowa.
Instructor in Histology and Embryology, 1901.
213 E. Market St. (Laboratory Hall)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E., 1901, Iowa.
Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A. 1900, Iowa.
Instructor in English, 1900. (226 Liberal Arts)

*Resigned, January 1, 1905.

ANFIN EGDAHL, B. S., 1900, Wisconsin; M. D., 1904, Johns Hopkins Medical School.

Instructor in Pathology and Bacteriology, 1904.
509 Jefferson St. (General Laboratory)

CHARLES LAZARUS BRYDEN, E. M., 1902; B. S. in Chemistry 1904, Lafayette College.

Instructor in Mining and Metallurgy, 1904.
402 Church St. (Chemical Laboratory)

CHARLES THAYER LINCOLN, B. S., 1901, Massachusetts Institute of Technology.

Instructor in Chemistry, 1904.
4 E. Market St. (Chemical Laboratory)

EDWARD LEWIS DODD, B. A., 1897; M. A., 1901, Western Reserve University; M. A., 1902; PH. D., 1904, Yale.

Instructor in Mathematics, 1904.
526 N. Linn St. (115 Liberal Arts)

WILLIAM JAY KARSLAKE, B. S., 1891; M. S., 1894, Lafayette; PH. D., 1895, Johns Hopkins.

Instructor in Chemistry, 1904.
935 Iowa Ave. (Chemical Laboratory)

JAMES BURT MINER, B. S., 1897; LL. B., 1899; M. S., 1901, Minnesota; PH. D., 1903, Columbia.

Instructor in Philosophy, 1904.
430 N. Gilbert. (215 Liberal Arts)

WILLIAM E. BECK, B, S., 1900; M. S., 1902, Iowa.

Assistant Instructor in Mathematics, 1900
518 South Clinton St. (115 Liberal Arts)

FREDERICK WILLIAM BAILEY, B. S., 1901; M. S., 1904, Iowa.

Assistant Instructor in Ophthalmology, 1901.
220 Davenport St.

MARY SLEIGHT EVERTS.

Assistant Instructor in Public Speaking and Acting Dean of Women, 1901. N. Linn St. (117 Liberal Arts)

MARY GROVE CHAWNER, B. A., 1896, Penn College; M. A., 1902, Iowa.

Assistant Instructor in English, 1902.
4 E. Jefferson St. (226 Liberal Arts)

RUDOLF ERNST KLEINSORGE.

Assistant Instructor in Physiology, 1903. 425 Iowa Ave.

HERTHA LOUISE VOSS, B. PH., 1904, Iowa.

Assistant Instructor in French, 1904.
20 E. Market St. (6 Liberal Arts)

WILLIAM BONAR BELL, M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903, Iowa.

Fellow in Zoology,
318 N. Dubuque St. (305 Science Hall)

CLARENCE WYCLIFFE WASSAM, B. Di., 1899; M. Di., 1900, Iowa State Normal; B. PH., 1903, Iowa.
Fellow in Sociology, 1903.
220 N. Dubuque St. (205 Liberal Arts)

CARL VOLNEY KENT, B. S., 1904, Iowa.
Fellow in Physics, 1903. 230 Fairchild St. (Hall of Physics)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Fellow in Pathology, 1903.
9 1-2 S. Dubuque S. (General Laboratory)

DANIEL STARCH, B. A., 1903, Charles City College; M. A., 1904, Iowa.
Fellow in Philosophy, 1903.
208 Fairchild St. (214 Liberal Arts)

MAY SHUCK, B. PH., 1904, Iowa.
Fellow in English, 1903. West Side

JOSEF WIEHR, B. PH., 1904, Iowa.
Fellow in German, 1903. (103 Liberal Arts)

SARAH ELIZABETH CRONIN, B. S., 1903, Iowa.
Fellow in Mathematics, 1904. (115 Liberal Arts)

HARRY HOLLAND FITCH, B. A., 1902, Iowa.
Fellow in Latin, 1904.

FREDERIKE BARBARA HAAN, B. A., 1904, Wisconsin.
Fellow in German, 1904.

FRED ALBERT, JR., B. PH., 1903, Iowa.
Scholar in Experimental Medicine, 1903.

CHRISTIAN EMILE BALE, B. A., 1904, Luther College.
Scholar in English, 1904.

CLARENCE HENRY HANSON, B. S., 1903, Iowa.
Scholar in Physiology, 1904.

SEBERN WALDO HOCKETT, B. S., 1904, Iowa.
Scholar in Geology, 1904.

EDWIN ALEXANDER JENNER, B. S., 1903, Simpson College.
Scholar in Psychology, 1904.

JOSEPH OLIVER JOHNSON, B. PH., 1904, Iowa.
Scholar in Political Science, 1904.

JUDSON FISK LEE, B. A., 1904, Des Moines College.
Scholar in Public Speaking, 1904.

BESS PEEBLES, B. PH., 1904, Upper Iowa University.
Scholar in English, 1904.

LAWRENCE ALBERT QUAIFE, B. PH., 1903, Iowa College.
Scholar in Pathology and Bacteriology, 1904.

ALICE RIGBY, B. PH., 1902, Cornell College.
Scholar in English, 1904.

ELIZABETH LEWIS SHERWOOD, B. A., 1881; M. A., 1903, Iowa.
Scholar in English, 1903.

ETHEL LENORE SMITH, B. A., 1904, Penn College.
Scholar in German, 1904.

ETHELIND SWIRE, B. PH., 1904, Iowa.
Scholar in French, 1904.

FERN MARIAN WILLIAMS, B. A., 1903, Tabor College.
Scholar in Greek, 1904.

JOSEPH ANDERSON.
Attendant in Pathology and Bacteriology, 1904.

RUDOLPH MARTIN ANDERSON, B. PH., 1903, Iowa.
Taxidermist, 1900. 8 College St. (Science Hall)

EDWARD ELLSWORTH BLYTHE, B. PH., 1900; M. D., 1904, Iowa.
Assistant in Histology, 1901.
21 1-2 S. Dubuque St. (General Lab. Hall)

GARRETT BOS.
Laboratory Assistant in Physics and Mechanics, 1904.

JOHN WILLIAM CARVILLE.
Assistant in Geology, 1892.

LUCY M. CAVANAGH, B. S., 1896, Iowa.
Assistant in Botany, 1902 711 Church St. (Science Hall)

JENS CHRISTIANSEN, M. Dl., 1901, Iowa State Normal.
Assistant in Pathology and Bacteriology, 1904.

HERBERT MORGAN DECKER, D. D. S., 1898, Iowa.
Assistant in Pathology and Bacteriology, 1904.

HENRY VALENTINE FARR, B. S., 1903, Penn College.
Storekeeper in Chemistry, 1904. (Hall of Chemistry)

PAUL J. HANZLIK, PH. G., 1902, Iowa.
Attendant in Chemistry, 1905.

HARRY MORGAN IVINS, B. S., 1904, Iowa.
Laboratory Assistant in Animal Biology, 1904.

DIEDRICH JANSSEN MEENTS, B. S., Steinman College.
Assistant in Pathology and Bacteriology, 1904.

HERBERT LOVELACE MOON.
Undergraduate Assistant in Animal Biology, 1904.

EUGENE FRED MUELLER, B. A., 1903, Iowa.
Assistant in Physics, 1905.

SARAH RUTH QUIGLEY, B. PH., 1902, Iowa.
Assistant in English, 1902.

CARL ERNEST RICHARDS.
Assistant in Pathology and Bacteriology, 1904.

CHARLES PLUME SCHENCK, B. S., 1904, Iowa.
Laboratory Assistant in Pathology and Bacteriology, 1904.

FRED JAY SEAVER, B. S., 1902, Morningside College.
Assistant in Botany, 1902.

SAMUEL EDWIN SHAFF.
Assistant in Shop Practice, Civil Engineering, 1902.
126 W. Jefferson St. (Engineering Hall)

ADELBERT W. STARBUCK, D. D. S., 1898, Iowa.
Assistant in Histology, College of Medicine, 1900.
(General Laboratory)

EVAHN RUSSELL WALKER, B. S., 1900, Iowa State College.
Assistant in Physiology, 1904.

THE ADMINISTRATIVE COUNCIL OF THE GRADUATE COLLEGE

Dean WELD, Chairman; Professor FAIRBANKS, Secretary; Professors ANSLEY, BIERRING, NUTTING, ROCKWOOD, WILCOX, WILSON.

THE ADMINISTRATION OF THE GRADUATE COLLEGE

The excellent opportunities offered by the State University of Iowa for the pursuit of advanced studies in various branches of knowledge have from the first attracted considerable numbers of college graduates to the institution. As the opportunities for advanced study multiplied, the number of such students became larger and several of the departments found it expedient to offer courses specially designed for graduates.

The first step toward the development of a graduate college was taken in 1888, when the practice of conferring the degree of Master of Arts upon all bachelors of three years' standing who had been engaged in professional or literary work was definitely discontinued. In 1893 the graduate work of the University had become of such importance as to warrant the appointment of a standing committee for its supervision and for the definition of the terms upon which the degrees of Master of Arts and Master of Science might be conferred. The policy inaugurated by this committee differed but little from that in operation at the present time and its effect was immediate and salutary. The number of advanced courses open to graduates steadily increased and the facilities for successfully prosecuting special work were greatly improved.

In 1898 applications for admission to candidacy for the degree of Doctor of Philosophy were for the first time accepted, and then only from graduate students in residence at the University. The question of accepting non-resident candidates for the degrees of Master of Arts and Master of Science was disposed of in 1899 when, upon the recommendation of the standing committee on graduate students, it

was voted by the faculty that no candidate *in absentia* would be accepted after October 1, 1900, and that all such existing candidacies should lapse in June, 1903.

The Graduate College was instituted by action of the board of regents on June 7, 1900. Besides recognizing the college and appointing a dean, the board established certain fellowships and scholarships, the number of which has been increased from year to year. The first annual announcement was issued in August, 1900.

A council of seven members, appointed by the president of the University, co-operates with the dean in the administration of the college.

ADMISSION

Any person known to be a graduate in good standing of an accredited college of liberal arts may be admitted to the Graduate College. Admission to specific courses of study to be taken in candidacy for an advanced degree, however, can only be granted upon the recommendation of the respective professors in charge of such courses.

There are no tuition fees in the Graduate College. A dipoma fee of $10 is charged for each advanced degree conferred.

FELLOWSHIPS AND SCHOLARSHIPS

For the coming academic year there will be available thirty-three or more fellowships and scholarships in the Graduate College of the State University of Iowa.

Attention is called to the scholarships in Iowa colleges offered each academic year. The regulations governing these scholarships are given below.

The value of a fellowship is $225 per year and that of a scholarship $125 with exemption from all University fees in each case. In general, a fellowship is granted only to graduate students of at least one year's standing, while a scholarship may be conferred upon graduation. Graduates of any accredited college of liberal arts are eligible.

FELLOWSHIPS AND SCHOLARSHIPS AT LARGE

Applications for graduate appointments must be made to the president of the University upon blanks prepared for

the purpose and obtainable from any member of the faculty. All applications, to be acted upon at the spring meeting of the board of regents, must be submitted before March 1st; those to be acted upon at the June meeting, before May 15th.

The following regulations are in force:

1. Each fellow or scholar will be required to pursue his studies under the direction of the professor in charge of his major or minor courses and to render to the University such services as may be required of him by the president in consultation with the professor in charge of his major course; it being understood that the maximum amount of service to be expected of a scholar shall be the *equivalent* of teaching three hours or of superintending laboratory work for six hours per week, while that required of a fellow may not exceed twice the above amount.

2. Each student holding a fellowship or a scholarship shall be in actual attendance throughout the academic year for which he is appointed, unless excused by the president and the head of his department.

3. The applicant for a fellowship or a scholarship will be expected to demonstrate his capacity for original research and must give evidence of marked attainments in one or more lines of study. Testimonials from responsible persons as to the general worthiness of the candidate must accompany the application, but no appointment to a fellowship may be made upon recommendations not supported by specimens of the applicant's original work.

4. Each application for a fellowship or scholarship shall, if approved by the head of the department in which the appointment is sought, be referred by him to the council of the Graduate College. The council shall consider all applications thus approved and referred and submit a report to the graduate faculty recommending a list of appointments assigned to the several departments as equitably as may be, the relative qualifications of the several applicants having been accorded due weight. This report as amended by the faculty shall, upon the approval of the president, be transmitted to the board of regents or its executive committee for final action at the spring meeting.

A second assignment of fellowships and scholarships may be made in the same manner at the June meeting of the board.

5. All graduate appointments shall be for one year. Both fellows and scholars may be recommended for re-appointment at the discretion of the council, but for a second year only.

6. Any graduate appointment may be withdrawn at any time upon the concurrent recommendation of the president of the University and the head of the department in which the appointment is held.

SCHOLARSHIPS IN IOWA COLLEGES

At the meeting of the board of regents of January 7th and 8th, 1904, the following regulations with respect to scholarships in Iowa colleges were formally adopted:

1. Until further notice one scholarship in the Graduate College of this University is hereby established in each of the "standard colleges" of Iowa. For the year 1904-5 those institutions officially recognized by the college section of the Iowa State Teachers' Association will be regarded as standard colleges.

2. Said scholarships shall entitle the student while holding the same to an annual stipend of one hundred and twenty-five dollars ($125.00) besides free tuition in the Graduate College.

3. Said scholarships are to be awarded annually as follows: The faculty of each college entitled to such scholarship shall be asked to certify, through its president, on or before April 1st of each year, to the president of this University, the name of two or more students who have received the baccalaureate degree from said college within two years prior to that date, or who will receive the said degree from that college at the close of that collegiate year, as being the persons whom they nominate as candidates for said scholarship in this University for the ensuing scholastic year. Of the candidates thus nominated it is contemplated that at least one shall desire to pursue, and shall have shown marked fitness for, graduate work under the

faculty of science; and one, likewise, under the faculty of letters.

4. Upon receipt of such nominations this University shall award the scholarship for said college to one of the candidates thus recommended, to be held during the ensuing academic year, provided any one of the candidates meet all the conditions governing the appointment of scholars by this University (see above). The University reserves the right to provide against the undue overcrowding of any one department or group of departments by such scholars. In case any college fail to nominate candidates who meet such requirements within the time above indicated or in case the appointment fail of acceptance, this University may consider application from other graduates of said college for the vacancy thus created or, at its discretion, withdraw the scholarship for that year.

5. Appointments to these scholarships are for one year and may be renewed for a second year only. The first award under these regulations shall be made for the academic year 1904-5.

6. The parties to whom these scholarships are awarded shall, while receiving the benefits therefrom, remain in residence in this University, shall perform such services in the libraries and laboratories and upon the instructional staff as may be assigned to them, and shall be subject to all other regulations governing fellows and scholars in the Graduate College.

7. In case any student while holding such scholarship, fail to remain in residence and pursue his studies the whole of the scholastic year, then he shall receive only a proportional part of the stipend attached to such scholarship for said year.

ADVANCED DEGREES.

The Graduate College confers the following degrees: Master of Arts, Master of Science, Doctor of Philosophy, Civil Engineer, Electrical Engineer. The requirements for these degrees are fully explained below.

MASTER OF ARTS AND MASTER OF SCIENCE

The degree of Master of Arts, or of Master of Science,

will be conferred upon resident graduates under the following conditions:

1. The candidate must be a graduate of this University, or of an accredited university or college.

2. He must have pursued, during one or more years, a course of graduate study at this University, covering one major and one minor subject; in a two year course, one major and two minors being allowed. His studies during this time are to be under the immediate supervision and control of the professors immediately concerned and to be subject to the approval of the faculty.

3. In all cases the minor or minors must be closely allied to the major subject; provided, however, that any candidate in residence for two or more years may select a modern language as a second minor in his course.

4. The candidate must submit a thesis of at least 5,000 words, showing marked attainment in some branch of learning. The subject of this thesis must be announced to the faculty for approval not later than the second Friday of December, and the thesis itself must be presented to the examining committee at a date to be set by the professor in charge of the thesis work, but not later, in any case, than May of the year in which the degree is expected.

5. He must, at the close of his course, pass a satisfactory examination, both oral and written, conducted by a committee which shall consist of three professors, selected by the faculty for this purpose.

6. Any person holding a baccalaureate degree from this or another institution of acceptable grade may be registered in the Graduate College as a candidate for an advanced degree while pursuing studies in any of the professional colleges of the University; but two years of such candidacy shall be necessary to fulfill the requirement of one year's residence, the time to be reckoned from the date of application for the advanced degree.

7. The degree of Master of Arts will be granted only upon the completion of a course mainly literary in character; the degree of Master of Science, after one mainly scientific.

MASTER OF SCIENCE IN MEDICINE

Students who, upon admission to the University, have presented preparatory work equivalent to the full requirement of the College of Liberal Arts and who have completed the four years course in medicine, may, upon the recommendation of the faculty of the College of Medicine, be admitted to the Graduate College as candidates for the degree of master of science in medicine. Such students will be expected to select their major and minor subjects under the advice of the medical faculty. The terms upon which the degree will be granted are identical with those set forth above.

DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy will be granted under the following conditions:

I. *Prerequisites.*

1. The candidate must have received the bachelor's degree either from this institution or from some other of equal rank.

2. He must present evidence of having completed a satisfactory amount of undergraduate work in the subjects proposed for investigation for this degree.

3. He must possess a knowledge of French and German at least sufficient for purposes of research.

II. *Conditions of Candidacy.*

1. At least three years of graduate study will ordinarily be required. Of these, two must be in residence and the last year prior to receiving this degree must be spent at this University.

2. In making formal application for this degree the candidate shall select one major study and one or two minors. The minor study or studies shall be closely allied to the major and shall be such as, with it, to constitute a single field of research.

3. The application of the candidate setting forth the line of research proposed, shall be approved and endorsed by the professor or professors under whose direction it is proposed to prosecute the work.

III. *Dissertation.*

1. On completion of his work the candidate shall submit to the faculty a formal dissertation which shall not only exhibit evidence of original research, but shall in itself be a contribution to the sum of human knowledge.

2. The dissertation must be in acceptable literary form; although its acceptance will depend chiefly upon the subject matter.

3. The subject of the proposed dissertation must be submitted to the faculty not later than the last Friday in September of the year preceding that in which the degree is expected; and a copy of the dissertation, printed or typewritten, must be in the hands of the secretary of the faculty not later than the 20th day of May of the year in which the degree is expected. In case the dissertation offered is accepted by the faculty and the candidate passes satisfactorily the examination provided for in the next section following, he shall, prior to receiving his degree, deposit with the librarian of the University twenty-five printed copies of the dissertation so accepted.

IV. Examinations.

1. At such times as may be agreed upon by the candidate and the professors in charge of his work, he shall pass an examination, both oral and written; the examination to be conducted by the professors immediately concerned,—the written privately, the oral in the presence of the faculty. For purposes of this examination five members of the faculty of the Graduate College shall constitute a quorum.

ENGINEERING DEGREES

Graduates from the engineering courses receive the degree of bachelor of science in the branch of engineering specially studied. The degree of civil engineer, electrical engineer, mechanical engineer, or mining engineer will be conferred upon graduates who have practiced their respective professions in positions of responsibility for at least three years and who have submitted approved theses and passed satisfactory examinations.

COURSES OF STUDY FOR GRADUATES

It is the aim of the University to furnish facilities for advanced study commensurate with the demand. No set courses of study leading to any of the advanced degrees are provided; each candidate for one of these degrees pursuing an independent line of study, in which regular university courses are usually combined with special research work, original in character, laid out with the advice of the professors, and carried out under their direction.

The elastic nature of the elective system here in operation renders the more advanced courses in many branches as valuable to the graduate as to the advanced undergraduate. The seminaries, for example, hold out encouragement and opportunities for a great deal of original study and research, as do also a number of the advanced courses in the different departments. In the following pages will be found grouped together those courses which are of special interest to graduates. In every case courses intended primarily for graduates (C) are distinguished from those open also to undergraduates (B). To the former, undergraduates are admitted only under exceptional circumstances and subject to the discretion of the professor in charge of the work.

The courses intended only for undergraduates (A) are not here given, but may be found in the current announcement of the College of Liberal Arts. The numbers given to the several graduate courses are continuous with those designating the undergraduate courses.

Additional graduate courses will be arranged in connection with the summer session for the benefit of those unable to do work in residence during the regular academic year. Details as to these courses are given in the current announcement of the summer session or may be obtained by correspondence with the professors concerned.

SANSKRIT

PROFESSOR POTTER

The courses in Sanskrit are intended to afford a general introduction to Indo-European comparative grammar and to lay the foundation for future reading in the literature and philosophy of the ancient Hindus.

For additional courses in Indo-European grammar see Greek, course 35 *(36)*; Latin, course 35; German, courses 11-12, 19; Scandinavian, courses 9 *(10)*, 13 *(14)*, 17 *(18)*, 19 *(20)*; English, courses 87 *(88)*, 79 *(80)*, 81, 82, 73.

*1. Sanskrit grammar and the reading of easy selections from the Nala. Lectures on Sanskrit phonology.

First semester; Tu., Th.

2. Introduction to the Veda. Lectures on Hindu history and literature.

Second semester; Tu., Th.

A supplementary reading course for the purpose of drill in vocabulary and grammatical forms is offered in the summer session.

GREEK LANGUAGE AND LITERATURE

PROFESSOR FAIRBANKS; PROFESSOR CALL

Ordinarily candidates for advanced degrees are expected to have completed four years of work in Greek before undertaking the work of the graduate courses. The aim of these courses is to enlarge the student's view of the field in which he is working, to train him in correct methods of study and investigation, and to encourage him to pursue lines of original research. In connection with each course the student is urged to read Greek authors both widely and accurately. In the preparation of the thesis offered for an advanced degree he has the benefit of the constant direction and advice of his instructor.

In the new hall of liberal arts the departments of Greek and Latin have received ample accommodation. In addition to the regular recitation rooms, a well-lighted room is set apart as a working room for advanced students in the classics.

Not only the texts of classic authors, but also the more important annotated editions have been obtained, the sets of periodicals containing the results of philological and archeological investigations are being placed on the shelves, and in some lines of archeology the standard publications have already been secured. The University has also begun a collection of photographs and lantern slides which are used to illustrate the courses in archeology, and to some extent the courses in Greek literature. The collection owned by the University is supplemented by several hundred slides and many photographs belonging to the instructors in this department.

Graduates who offer Greek as their major are not required to take Latin as a minor, but they are strongly urged to do so. A working knowledge of Latin, as well as of French and German, is, of course, required of candidates for the doctor's degree.

The courses in Greek Language and Literature are described on pages 117–120.

CLASSICAL ARCHEOLOGY

Art; History; Antiquities

The courses in Classical Archeology are described on pages 120–121.

LATIN LANGUAGE AND LITERATURE

PROFESSOR CURRIER; PROFESSOR POTTER, PROFESSOR FAIRBANKS, MR. FITCH

The minimum prerequisite for work leading to an advanced degree is the full preparatory work and the undergraduate courses 7-12 inclusive, or their equivalent.

The courses in Latin Language and Literature are described on pages 121–126.

FRENCH LANGUAGE AND LITERATURE

PROFESSOR VAN STEENDEREN; ASSISTANT PROFESSOR BUSH, MISS VOSS, MISS SWIRE

Aside from the general requirements for admission to the Graduate College, the candidate for an advanced degree, pursuing either his major or his minor course in this depart-

ment, must have completed undergraduate courses 1 *(2)*, or 3 *(4)*, and 5 *(6)*, or their equivalent; that is, he is expected to know the essentials of French grammar, to be able to read modern French prose, and to translate English into French with fair ability.

Besides the completion of courses offered below, the candidate must, if romance is chosen as a major study, follow a course of original study, the subject of which is chosen under the advice of the professor in charge, the results of which must be embodied in a thesis.

The courses in French Language and Literature are described on pages 126–129.

SPANISH LANGUAGE

The courses in Spanish Language are described on page 130.

ITALIAN LANGUAGE

The courses in Italian Language are described on page 130.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR WILSON; ASSISTANT PROFESSORS STURM AND HAHLMAN, MR. WIEHR, AND MISS HAAN

All courses in German are offered every year except as otherwise indicated. Courses with odd numbers are given in the first semester, those with even numbers in the second semester. Students are invited to consult with the instructors in arranging their work. Graduate students of German will find it to their special advantage to combine with their work some of the courses offered in the Scandinavian and English departments.

The German library is particularly rich in the history of German literature, the history of the German language, Goethe literature, Middle High German, Old High German, and possesses complete bound sets of the most important philological periodicals. It is conveniently arranged in the German seminar room, No. 103, in the Hall of Liberal Arts, adjoining the other rooms of the department.

The courses in German Language and Literature are described on pages 130–136.

SCANDINAVIAN LANGUAGES AND LITERATURES

DR. FLOM

The graduate instruction offered in the department of Scandinavian languages, is intended in part to suit the needs of advanced students in other modern languages, especially German and English, and in part to give to those who would devote themselves more particularly to Scandinavian literature and linguistics a thorough knowledge of Scandinavian, both in the older and in the modern period. A knowledge of Old Norse is important for the thorough understanding of the other Germanic languages and Germanic philology in general. Furthermore, some of the finest treasures of Old Germanic literature are written in that tongue. Old Danish and Old Swedish, though inferior from the standpoint of literary interest, are highly important philologically. Two courses will be offered in Old Norse (and Old Icelandic): the one elementary and philological, the other advanced and more literary in character. In the former the interests of the student of English or German philology will be kept constantly in view. This course is also intended to lay a foundation for further study in Scandinavian philology. Courses are also offered in the history of the Scandinavian languages and in Scandinavian influence on English. The latter should be of particular interest to students of English philology. It is the purpose of this course to go, rather in detail, into the linguistic relations of English and Scandinavian. After introductory lectures on English dialects, in which special attention will be paid to Northern English, certain works will be assigned for special study. The form and distribution of words will be studied, and their dialectal provenience determined as nearly as may be.

The courses in Scandinavian Languages and Literatures are described on pages 136–140.

ENGLISH

PROFESSOR ANSLEY; DR. FLOM; MR. SLOAN; MR. HUNT; MISS CHAWNER

Undergraduates who intend to become candidates for advanced degrees in English should emphasize this and re-

lated subjects in the work of the junior and senior years. Those who do not make the special preparation recommended find that more than the usual time must be given to the graduate course.

The requirements for a major in either English literature or English language may be learned by application to the head of the department. The preparation and the aims of the student are considered. For a minor in English, courses should be chosen after conference with the head of the department and the professor in charge of the major. With the consent of the instructor, any course in the department is open to a graduate student; but only approved combinations of courses lead to advanced degrees.

Work not provided for in the courses announced is outlined and directed by instructors as needed.

The courses in English are described on pages 140–144.

PUBLIC SPEAKING

PROFESSOR GORDON; MISS EVERTS

The subject of public speaking deserves careful attention at the hands of graduate students. The relation between the history of a nation and the development of public speaking, the history of public speaking in a republic, and the influence of vocal expression upon a nation's literature are some of the subjects that need elucidation at the hands of cultured students.

The courses in Public Speaking are described on pages 144–147.

HISTORY

Students who wish to do graduate work in history will be expected to have done more than the average amount of undergraduate work in the subject. Graduate work is not intended to fill up gaps left in the student's undergraduate course. All who intend to specialize in history should emphasize this subject before taking the bachelor's degree. Before any one can be enrolled as a graduate student in this department the requisite amount of preliminary work must be completed, either before or after receiving the first

degree. Those contemplating graduate work in history are urged to elect also courses in sociology, economics, and politics.

The courses in History are described on pages 148–151.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH; DR. HORACK

Candidates for the degree of Master of Arts or Doctor of Philosophy in any of the lines of study comprehended by the department of political science are offered the following regular courses of instruction. Additional courses in the general field of politics will be outlined by the head of the department to meet the special demand of individual candidates.

The courses in Political Science are described on pages 151–155.

POLITICAL ECONOMY AND SOCIOLOGY

PROFESSOR LOOS; PROFESSOR PATTERSON, DR. SCHAFFNER

Candidates for advanced degrees who elect political economy, sociology or commerce as major or minor are requested to confer with the professors in charge with reference to the suitable grouping of the courses here offered.

The courses in Political Economy and Sociology are described on pages 155–161.

PHILOSOPHY

PROFESSOR PATRICK; PROFESSOR SEASHORE, DR. MINER, PROFESSOR FAIRBANKS, MR. STARCH.

This department offers opportunity for advanced study in the following subjects: psychology, history of philosophy, logic and metaphysics, ethics, aesthetics, and the history and philosophy of religion. Candidates for the degree of Master of Arts or Master of Science having the required preparation for advanced work may elect any one of these subjects for either a major or a minor course, subject to the rules for graduate students. Candidates for the degree of Doctor of Philosophy, while selecting one subject for

special research will be expected to gain a comprehensive knowledge of all the subjects in this group. As examples of subjects for special research, or for theses, may be mentioned: problems in experimental or physiological psychology, the methods and results of child study, epistemology, special periods and subjects in the history of philosophy, etc.

Candidates for advanced degrees in this department should have taken as undergraduate work in this institution, or in another of like rank, a general elementary course in psychology, a course in logic and a course in ethics. An introductory course in the history of philosophy is also very desirable for preparation. Graduate students not candidates for a degree may take any course for which they are prepared, upon the approval of the instructor.

The courses in Philosophy are described on pages 162–165.

EDUCATION

PROFESSOR BOLTON; PROFESSOR BROWN, ASSISTANT PROFESSOR DORCAS, SUPERINTENDENT MCCONNELL

Course 1 (*2*) is the most desirable as a first course in education. Certain other courses may well be taken at the same time. After course 1 (*2*) the order is not important. Courses 1 (*2*) and 5 (*6*), or 1 (*2*) and 13 (*14*) make a good five hour combination. Courses 1 (*2*), 9 (*10*), 12, and 13 (*14*) are especially desirable for normal school graduates and are in no sense a duplication of work done in the normal schools. Advanced courses are also open to those qualified. Some seminary work is especially valuable for such students.

Some work in psychology and in biology is very desirable in preparation for the courses in education. Students expecting to do considerable work in education can profitably take psychology in the sophomore year, and then distribute the work in education through the junior and senior years.

The courses in Education are described on pages 166–171.

ANIMAL BIOLOGY

PROFESSOR HOUSER; MR. LAMBERT, MR. IVINS

The graduate courses offered by this department presuppose familiarity with both the general methods and the

fundamental principles of animal biology. As a rule, the requisite preparation will involve one year of laboratory work at least equivalent to that afforded by courses 1 and 2; see the announcement of the College of Liberal Arts. A knowledge of elementary chemistry, and the ability to read German and French are also prerequisites.

Applicants for a minor course who satisfy these requirements will be admitted at once to any graduate work for which they are prepared.

Those electing animal biology as the major subject will be expected to meet the conditions named above, and, in addition, to present evidence of having completed work equivalent to that of courses 7 and 8 outlined below. As a foundation for research, such preparation is considered essential in every instance. Original work of a microscopical character should also be preceded by courses 9 and 10; while advanced study involving anatomical methods should utilize course 11 *(12)* as a basis.

The courses in Animal Biology are described on pages 171-175.

HUMAN PHYSIOLOGY

DR. MCCLINTOCK; MR. KLEINSORGE

Those wishing to take physiology either as a major or minor in a course leading to an advanced degree, should have, as preliminary, at least one year's work each in physics, chemistry, and morphology, and should have completed undergraduate courses in physiology. Suitable courses will be outlined to meet the requirements of each student and special arrangements will be made in the physiological laboratory of the College of Medicine which will enable the students to carry on original research work.

Throughout the year; hours to be arranged.

HISTOLOGY AND EMBRYOLOGY

DR. WHITEIS

As a prerequisite to advanced work in this department the student will be required to possess a good working knowledge of both the methods and the subject matter of

general histology and embryology. Two courses are offered as follows:

1. THE EYE—The histology of its tissues, considered in relation to both their phylogenetic and their ontogenetic development. The structure and development of the retina will be specially studied. Time to be arranged.

2. THE EAR—The investigation will proceed along the same lines as in the preceding course. Time to be arranged.

In either course the student will be assigned a private laboratory and offered such opportunities as the general laboratory and library afford. The department will supply the necessary tissues and reagents.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM

Two years' work in natural science, one of which shall have been in zoology or animal morphology, will be required as a preliminary to admission to graduate courses with zoology as a major.

One year's work in zoology, animal morphology, or botany will be required for admission to graduate courses with zoology as a minor.

The courses in Zoology are described on pages 175-179.

OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY

PROFESSOR DEAN; MR. BAILEY

This department offers work suitable to candidates for advanced degrees. Its laboratories are well equipped with microscopes, microtomes and other instruments of investigation and are amply provided with anatomical, histological and pathological materials. The graduate student will be given a desk in the laboratory and will have access to all available instruments and materials. He may also take advantage of the departmental clinics. His work will be personally supervised. Subjects for special research and for theses will be suggested by the head of the department as required. Time to be arranged. Professor DEAN:

BOTANY

PROFESSOR MACBRIDE; PROFESSOR SHIMEK

General courses in elementary botany, including the courses in plant histology and physiology are required as preliminary to graduate work in this department.

The courses in Botany are described on pages 179–184.

PATHOLOGY AND BACTERIOLOGY

PROFESSOR ALBERT; DR. EGDAHL, DR. DECKER.

Candidates for higher degrees may pursue advanced work or carry on original investigations in pathology or bacteriology. As a prerequisite to such work, the student will be required to have had at least one year's work in pathology or bacteriology.

Each student will be assigned a private laboratory and given the use of a good microscope, and supplied with the tissues and reagents necessary for the work of the course.

The following regulations with respect to major and minor subjects are to be observed. When the major subject chosen is bacteriology, the minor subject should include either chemistry, or botany, or both; while, if the major is experimental or comparative pathology, the minor should comprise such subjects as anatomy, histology, animal morphology, physiology, botany or psychology. Work in this department may also be elected as a minor.

Special courses may be arranged to suit the requirements of individual students.

Throughout the year; hours to be arranged.

See courses 8 and 9 on pages 367–368.

THEORY OF MEDICINE

DR. BIERRING

INTERNAL MEDICINE—Candidates for advanced academic degrees may pursue research work in internal medicine in the laboratories of the College of Medicine. The department now has a fully equipped clinical laboratory which affords special facilities for the study of problems con-

nected with internal diseases. When this subject is chosen as a major, it is suggested that the minor include either physiology, pathology, or bacteriology.

Throughout the year; hours to be arranged.

GEOLOGY AND MINING

PROFESSOR CALVIN; PROFESSOR WILDER, MR. HOCKETT

The geological field within reach of Iowa City and the geological collections and reference library belonging to the University afford ample opportunities for research work in geology. Courses can be arranged to meet the wishes of individual students. The following are outlines of some of the courses which may be chosen from the possible range of subjects available for graduate work.

The courses in Geology and Mining are described on pages 185–188.

CHEMISTRY

PROFESSOR ROCKWOOD; DR. VON ENDE, DR. KARSLAKE, MR. BRYDEN, MR. LINCOLN

Graduates of accredited colleges who have done the amount of work in chemistry ordinarily covered in three semesters, comprising general elementary chemistry with laboratory work, introductory qualitative analysis, and introductory quantitive analysis, may become candidates for the degree of master of science.

The requirements for admission to the courses leading to the doctor's degree demand three years' preparatory work in chemistry and comprise a good knowledge of the following branches: general chemistry, physical chemistry, qualitative analysis, quantitative analysis, organic chemistry (including some experience in organic combustion and organic preparations) and outlines of chemical technology. A thorough course in physics is very desirable as a preparation for either of the advanced courses; and if, in any case, deficiences exist in this respect they must be made up after entering, and a corresponding increase in the duration of course is to be expected. No one will be encouraged

to present himself for final examination without a certain maturity of thought and ability which does not depend altogether upon the time of study.

The courses in Chemistry are described on pages 189–196.

PHYSICS

PROFESSOR VEBLEN, PROFESSOR SMITH; MR. LORENZ, MR. KENT, MR. MUELLER

Those wishing to take physics as a minor should previously have pursued a course equivalent to the undergraduate course in general physics covering one year, and should also have a good working knowledge of algebra, geometry, trigonometry, and, if possible, of plane analytical geometry. For those taking physics as a major, a knowledge of differential and integral calculus is necessary, and, in some cases, differential equations will be needed.

A description of the physical laboratory and workshop will be found under the head of *Material Equipment.*

The courses in Physics are described on pages 196–198.

MATHEMATICS

PROFESSOR WELD; DR. WESTFALL, DR. DODD, MR. BECK, MISS CRONIN

The candidate for an advanced degree in mathematics must have completed one of the following groups of undergraduate courses, detailed statements of which will be found in the announcement of the College of Liberal Arts:

Freshman	GROUP (A) (Daily)	GROUP (B) (M., Tu., W., Th.)
1st quar.	Algebra, 21a	Alg. I., 3a
2nd "	Trig., 23b	Trig., 7b
3rd "	Anal. Geom., 24	Alg. II., 6a
4th "	Anal. Geom., 24	Graphics, 10b
Sophomore		
1st quar.	Calculus, 25	Anal. Geom., 11a
2nd "	Calculus, 25	Calculus, 13b
3rd "	Calculus, 26a	Calculus, 14a
4th "	Theo. of Eqs., 28b	Calculus, 14b

	GROUP (C)	GROUP (D)
Freshman	(Tu., W., Th., F.)	(M., Tu., Th., F.)
1st quar.	Solid Geom., 1a	....
2nd "	Alg. I., 3b	....
3rd "	Trig., 8a	Alg. I., 4a
4th "	Graphics	Alg. II., 6b
Sophomore		
1st quar.	Anal. Geom., 11a	Trig., 7a
2nd "	Calculus, 13b	Anal. Geom., 11b
3rd "	Calculus, 14a	Calculus, 12
4th "	Theo. of Eqs., 16b	Calculus, 12

Graduates electing mathematics as a minor may, upon the recommendation of the professor in charge of the major subject, elect the second year's work in any one of the first three of the above groups.

The courses outlined below may, many of them, be taken by undergraduates specializing in mathematics. All graduate students in mathematics are expected to take an active part in the mathematical seminary; and every candidate for an advanced degree will be required to submit a thesis, prepared under the direction of his instructors, representing original investigation in either pure or applied mathematics.

The courses in Mathematics are described on pages 198–204.

ELECTRICAL ENGINEERING

DR. WELLS

As preliminary to the following graduate courses a good knowledge of general physics, including the principles of electricity is required; and also, in general, a working knowledge of differential and integral calculus.

The courses in Electrical Engineering are described on pages 211–212.

THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE

* FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams: B. D., 1877. Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1898** 603 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth, LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1887.
32 Bloomington St. (108 Liberal Arts)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn College.

Professor and Head of the Department of Political Economy and Sociology and Director of the School of Political and Social Science, 1889. 22 E. Bloomington St. (205 Liberal Arts)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Head of the Department of History, and Professor of American History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893; Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895.
219 N. Clinton St. (202 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education, 1900.
1019 College St. (217 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

HARRY GRANT PLUM, B. PH., 1894; M. A., 1896, Iowa.

Professor of European History, 1900
222 Fairchild St. (315 Liberal Arts)

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*The faculty of the College of Liberal Arts has over ninety professors, instructors and assistants. This list contains the names only of those in the several departments of the University offering prescribed courses in this school.

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Professor of Commerce and Statistics, 1898.
505 Washington St. (209 Liberal Arts)

FRANK EDWARD HORACK, B. PH., 1897; M. A., 1899, Iowa; PH. D., 1902, Pennsylvania.

Instructor in Political Science, 1902.
120 N. Dodge St. (220 Liberal Arts)

MARGARET A. SCHAFFNER, B. A., 1895, Emporia; M. A., 1899; PH. D., 1902, Wisconsin.

Instructor in Economics and Sociology, 1902.
106 Fairchild St. (205 Liberal Arts)

JAMES BURT MINER, B. S., 1897; LL. B., 1899; M. S., 1901, Minnesota; PH. D., 1903, Columbia.

Instructor in Logic and Ethics in the Department of Philosophy, 1904.
480 N. Gilbert St. (215 Liberal Arts)

CLARENCE W. WASSAM, B. PH., 1903, M. A., 1904, Iowa.

Fellow in Economics, 1904. 220 N. Dubuque St. (205 Liberal Arts)

JOSEPH O. JOHNSON, B. PH., 1904, Iowa.

Scholar in Political Science, 1904.
220 N. Dubuque St. (201 Liberal Arts)

EDMUND CHRISTIAN NELSON, B. PH., 1904, Iowa.

Assistant in History, 1904. 205 N. Linn St. (315 Liberal Arts)

**Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

SCOPE AND PURPOSES OF THE SCHOOL

The School of Political and Social Science, established by the board of regents in June, 1900, embraces the following departments of instruction: history, political economy and sociology, including commerce; and political science. It provides courses in ancient and modern history, in the several branches of economics including commerce, finance and statistics; in theoretical and practical sociology; and in political science including public law and jurisprudence.

The aim of the school is to give a complete general view of all the political and social sciences and to foster the further development of all the branches thereof. Its more immediate and practical object is to prepare the students of the University for the intelligent exercise of the rights and duties of citizenship in a free commonwealth, and to fit them for the various branches of the public service and for the wider avenues of business. It aims furthermore to supplement, by courses in public law and comparative jurisprudence, the instruction in private municipal law given by the faculty of law, and to give to those who intend to make journalism their profession adequate training in historical, economic, and legal subjects. Finally it aims to educate teachers of the several branches of political and social science.

ADMISSION TO UNDERGRADUATE STUDY

The requirements for admission to undergraduate study in the School of Political and Social Science are the same as those of the College of Liberal Arts and will be found set out at length on pages 78–93.

GENERAL AND SPECIAL COURSES IN THE SCHOOL OF POLITICAL AND SOCIAL SCIENCE

For a description of these courses see pages 95–98.

SPECIAL UNDERGRADUATE AND GRADUATE COURSES

As the courses here outlined are based on the group principle of election, modifications may be readily made in order to bring them more specifically within the scope of the aims and purpose of the individual student. Extreme specialization is, however, not recommended and for his guidance the special student should always consult the general course of study given above. The special attention of those contemplating preparation for certain lines of trade or for certain forms of the public service, for example, the consular service, is called to the importance of an adequate knowledge of modern languages. The University at present offers: German, French, Spanish, Italian, Dutch, and Scandinavian. In preparation for statistics the election of one or more courses in mathematics in the freshman and sophomore years should not be omitted. As preparation for modern history the freshman option in history and additional history, in the sophomore year may be taken. And in the course in practical philanthropy, psychology may be taken as an elective during the sophomore year. The student who wishes to specialize in the School of Political and Social Science, should in each semester of his sophomore year elect at least two of the courses open to him in history, politics, and economics.

The special courses during the first and second years are substantially like the work outlined for the general course during the first two years. The courses as outlined for the third and fourth years are primarily designed for juniors and seniors who may wish to specialize in the several lines indicated, but they are also recommended to graduate and professional students.

COMMERCIAL MUSEUM

To provide practical instruction in commercial subjects a museum has been founded. Here are gathered the products of the several countries and the various stages in the manufacture of the raw products into finished and by-products are shown. An attempt is made to have

samples of all articles produced from a given raw product. This material is supplemented by views showing the method of culture of the raw products and the various processes of its manufacture that cannot be well illustrated by samples of the unfinished product.

STATISTICAL LABORATORY

The rapidly increasing volume of statistical data published by the government and other agencies render a knowledge of the methods of securing and compiling such material essential. That this may be suitably shown a statistical laboratory has been established. At present the electrical machines and other devices used in the federal and state censuses may be found herein. A few calculating machines are at the disposal of the student and many of the instruments and devices used in the construction of diagrams and charts are at his disposal. It is the intention to add to this equipment as rapidly as possible and ultimately to have a complete assortment for statistical work.

STUDIES IN SOCIOLOGY, ECONOMICS, POLITICS AND HISTORY

The faculty of political and social science are the editors of a series of studies in sociology, economics, politics, and history, of which the following have so far appeared: Vol. 1, Studies in the Politics of Aristotle, and the Republic of Plato, by ISAAC ALTHAUS LOOS, The University Press, 1899; Vol. 2, No. 1, The Early History of Banking in Iowa, by FRED D. MERRITT, M. A., Ph. D., 1900; Vol. 2, No. 2, The Development of Political Thought in Japan, by KIYOSHI KAWAKAMI, 1903; Vol. 3, No. 1, The Freedman's Bureau, by PAUL SKEELS PEIRCE, 1904.

THE POLITICAL SCIENCE CLUB

The Political Science Club is devoted to the cultivation and advancement of the political and social sciences. The club has held regular meetings since October, 1896. A formal organization was effected in January, 1897. The club now holds fortnightly sessions from October to May each

year. At these sessions papers are read by members or by invited guests, presenting the results of original investigation in some subject in any one of the following group of sciences: history, economics, sociology, politics, law, education and ethics. The membership of the club is limited to the faculties of instruction in the several departments interested.

THE SCHOOL OF APPLIED SCIENCE

THE SCHOOL OF APPLIED SCIENCE

* FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.† 603 College St. (108 Old Capitol)

AMOS NOYES CURRIER, B. A., 1856; M. A., 1859, Dartmouth; LL. D., 1893, Des Moines.

Professor and Head of the Department of Latin Language and Literature, and Dean of the College of Liberal Arts, 1867.
32 Bloomington St. (108 Liberal Arts)

WILLIAM GALT RAYMOND, C. E., 1884, Washington University.

Professor of Civil Engineering and Director of the School of Applied Science, 1904. 606 S. Johnson St. (17 Hall of Liberal Arts)

SAMUEL CALVIN, M. A., 1874; LL. D., 1904, Cornell College; PH. D., 1888, Lenox; F. G. S. A.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

THOMAS HUSTON MACBRIDE, B. A., 1869; M. A., 1873, Monmouth; PH. D., 1895, Lenox.

Professor and Head of the Department of Botany, 1878.
728 Washington St. (206 Science Hall)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. 311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor of Experimental Physics, and Secretary of the Faculty of the College of Liberal Arts, 1883.
707 N. Dubuque St. (Hall of Physics)

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*The faculty of the University numbers over one hundred and eighty professors, instructors and assistants. This list contains the names of those in the several departments of the University offering courses in applied science.

†Date following title indicates year of appointment to service in the University. The names of professors and instructors are arranged in groups according to seniority of appointment to present rank.

LAENAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics, Dean of the Graduate College, 1886.
612 N. Dubuque St. (113 Liberal Arts)

CHARLES CLEVELAND NUTTING. B. A., 1880; M. A., 1882, Blackburn University.

Professor and Head of the Department of Zoology, and Curator of the Museum of Natural History, 1886.
922 E. Washington St. (304 Science Hall)

ELBERT WILLIAM ROCKWOOD, B. S., 1884; M. A., 1901, Amherst; M. D., 1895, Iowa; PH. D., 1904, Yale.

Professor of Chemistry and Toxicology, 1888.
1011 Woodlawn (Chemical Laboratory)

FREDERICK C. L. VAN STEENDEREN, M. A., 1893, Penn Coll.

Professor and Head of the Department of French Language and Literature, 1893.
309 Church St. (120 Liberal Arts)

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Biology, 1892.
422 Iowa Ave. (101 Science Hall)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.

Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

COLONEL GEORGE RITTER BURNETT, Graduate U. S. Mil. Acad., West Point, 1880; of U. S. School of Application, Ft. Leavenworth, 1885; First Lieut. U. S. A.; B. S., 1904; LL. B., 1904, Iowa.

Professor of Military Science and Tactics, and Commandant of the Cadet Battalion, 1901.
128 Clinton St. (Armory)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany, Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890.
529 Brown St. (201 Science Hall)

HENRY FREDERICK WICKHAM, M. S., 1894, Iowa.

Professor of Entomology, and Assistant Curator of the Museum of Natural History, 1894.
911 Iowa Ave. (303 Science Hall)

FRANK ALONZO WILDER, B. A., 1892, Oberlin; PH. D., 1902, Chicago.

Professor of Petrology, Economic Geology and Mining, 1903.
634 Summit St. (106 Science Hall)

CHARLES SCOTT MAGOWAN, C. E., 1884; M. A., 1887, Iowa.

Professor of Municipal and Sanitary Engineering, 1886.
304 Summit St. (Engineering Hall)

ARTHUR G. SMITH, B. PH., 1891; M. A., 1895, Iowa.

Professor of Physics and Mechanics, 1893.
West Side. (Hall of Physics)

JOHN GEORGE CHALMERS, B. A., 1901, Lafayette.

Professor and Director of Physical Training and Athletics, 1903. 6 Bloom Terrace

WILLIAM ROLLA PATTERSON, B. Di., 1888; B. S., 1889, Iowa State Normal; B. PH., 1895, Iowa; PH. D., 1898, Pennsylvania.

Professor of Commerce and Statistics in the Department of Political Economy and Sociology, 1898. 505 Washington St. (209 Liberal Arts)

HENRY ALBERT, B. S., 1900; M. D., 1902; M. S. 1902, Iowa.

Professor of Pathology and Bacteriology, 1901. 120 E. Market St. (Laboratory Hall)

WILLIAM GALT RAYMOND, C. E., 1884, Washington University.

Professor of Civil Engineering and Director of the School of Applied Science, 1904. 606 S. Johnson St. (17 Hall of Liberal Arts)

SHERMAN MELVILLE WOODWARD, M. S., 1893, Washington University; M. A., 1896, Harvard.

Professor of Steam Engineering, 1904. 4 Bloom Terrace. (Engineering Hall)

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Professor of Descriptive Geometry and Drawing.

ROY TITUS WELLS, B. S., 1898; M. S., 1898, Tufts College; PH. D., 1903, Clark University.

Assistant Professor in charge of Electrical Engineering, 1903. 330 N. Linn St. (Armory)

FREDERICK BERNARD STURM, B. A., 1892, Michigan.

Assistant Professor of German, 1892. 402 Church St. (102 Liberal Arts)

CLARENCE WILLIS EASTMAN, B. S., 1894, Worcester Polytechnic; M. A., PH. D., 1898, Leipzig.

Assistant Professor of German, 1898. 225 Fairchild St. (102 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.

Assistant Professor in French, 1901. 127 1-2 S. Dubuque St. (120 Liberal Arts)

CARL LEOPOLD VON ENDE, B. S., 1893; M. S., 1894, Iowa; PH. D., 1899, Goettingen.

Instructor in Chemistry, 1899. 715 N. Gilbert St. (Chemical Laboratory)

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.

Instructor in Mathematics, 1899. 328 N. Linn St. (12 Liberal Arts)

CHARLES F. LORENZ, B. S., 1897; M. S., 1898, Iowa.

Instructor in Physics, 1900. West Side. (Hall of Physics)

JOHN J. LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1899; M. S., 1901, Iowa.
Instructor in Animal Biology, 1898.
120 E. Market St. (104 Science Hall)

BYRON JAMES LAMBERT, B. Di., 1896; M. Di., 1897, Iowa State Normal; B. PH., 1900; B. S. in C. E. 1901, Iowa.
Instructor in Civil Engineering, 1902.
24 N. Clinton St. (Engineering Hall)

ANFIN EGDAHL, B. S., 1900, Wisconsin; M. D., 1904, Johns Hopkins Medical School.
Instructor in Pathology and Bacteriology, 1904.
509 Jefferson St. (General Laboratory)

CHARLES LAZARUS BRYDEN, E. M., 1902; B. S. in Chemistry, 1904 Lafayette College.
Instructor in Mining and Metallurgy, 1904.
402 Church St. (Chemical Laboratory)

EDWARD LEWIS DODD, B. A., 1897; M. A., 1901, Western Reserve University; M. A., 1902; PH. D., 1904, Yale.
Instructor in Mathematics, 1904.
526 N. Linn. (115 Liberal Arts)

WILLIAM JAY KARSLAKE, B. S., 1891; M. S., 1894, Lafayette; PH. D., 1895, Johns Hopkins.
Instructor in Chemistry, 1904.
935 Iowa Ave. (Chemical Laboratory)

WILLIAM E. BECK, B. S., 1900; M. S., 1902, Iowa.
Assistant Instructor in Mathematics, 1900.
518 S. Clinton St. (115 Liberal Arts)

HERTHA LOUISE VOSS, B. PH., 1904, Iowa.
Assistant Instructor in French, 1904.
20 E. Market. (6 Liberal Arts)

RALPH LEONIDAS BYRNES, B. S., 1902, Iowa.
Fellow in Pathology, 1903
9½ S. Dubuque St. (General Laboratory)

SARAH ELIZABETH CRONIN, B. S., 1903, Iowa.
Fellow in Mathematics, 1904. (Liberal Arts)

FREDERIKE BARBARA HAAN, B. A., 1904, Wisconsin.
Fellow in German, 1904.

CARL VOLNEY KENT, B. S., 1904; M. A., 1904, Iowa.
Fellow in Physics, 1903.
230 Fairchild St. (Hall of Physics)

JOSEF WIEHR, B. PH., 1904, Iowa.
Fellow in German, 1903. (Liberal Arts)

ETHELIND SWIRE, B. PH., 1904, Iowa.
Scholar in French, 1904.

HARRY MORGAN IVINS, B. S., 1904, Iowa.
Laboratory Assistant in Animal Biology, 1904.

EUGENE FRED MUELLER, B. A., 1903, Iowa.
Assistant in Physics, 1905.

SAMUEL EDWIN SHAFF.
Assistant in Shop Practice, Civil Engineering, 1902.
126 W. Jefferson St. (Engineering Hall)

THE SCHOOL OF APPLIED SCIENCE

ADMISSION TO UNDERGRADUATE STUDY

IN THE ENGINEERING DEPARTMENTS

The requirements for admission to the School of Applied Science are substantially the same as those of the College of Liberal Arts and are described at length on pages 78-93.

COURSES OF STUDY IN THE ENGINEERING GROUP.

The courses of study in the engineering group are designed to insure a thorough grounding in the fundamental principles underlying all engineering practice.

Instruction in the engineering department is by recitation, lecture and laboratory work. The recitation method is followed so far as practicable. A sufficient amount of field and laboratory work is given to thoroughly fix the principles taught in the class room, and to give the student sufficient skill in the elementary engineering operations of surveying and drawing to enable him to undertake such work immediately upon graduation. Much attention is paid to the design of engineering structures, machines and processes, to the end that the graduate may be competent to design bridges, structures in masonry, water supply and sewerage systems, prime movers and machinery; to lay out and supervise the construction of power plants; and to direct and report upon mines, mining properties and metallurgical processes.

The courses offered, besides providing in each the fundamental principles of all, enable the student to specialize so far as is deemed wise in an undergraduate course, in civil, sanitary, mechanical, electrical or mining engineering.

Except that in the second semester of the mining course chemistry is substituted for economics required in the other engineering courses, the work of the first year is identical for all engineering students. Each intrant must register in one course or another, but he may change his course at pleasure at the beginning of the second year.

One complete course extending through four years must be covered to secure the Bachelor's Degree in Science in Engineering. The degree is not given for a total of one hundred and twenty hours.

In the engineering department, laboratory work requiring no preparation will be rated hour for hour at one-third time value of class room exercises requiring preparation, that is to say, a three-hour laboratory period will be considered equivalent to a single hour lecture or recitation.

A thesis is required for graduation from all courses. In general this thesis must be a report upon an original investigation of some engineering problem, or a complete design for some engineering structure, machine or plant.

The majority of the studies in the engineering courses are so interdependent that they can be profitably taken by the student only in the order indicated in the tabular statement.

Students of other departments of the University who have covered the necessary prerequisities may take courses in the engineering department in so far as the rules of their respective departments permit.

Outlines of the several courses of study will be found on pages 100-105. In the synopsis of work required in the engineering group, the numbers are those used in these descriptions. Odd numbers indicate work in the first semester; even numbers work in the second semester. The letters a and b following these numbers indicate respectively the first and second halves of the semester.

DESCRIPTION OF COURSES

The following descriptions include in the several departments of the university named only those courses properly belonging within the School of Applied Science. For full list of courses offered consult the announcements of the several colleges.

ANIMAL BIOLOGY

PROFESSOR HOUSER; MR. LAMBERT, MR. IVINS.

For a description of the courses in Animal Biology see courses 1 and 6 on pages 171-172.

ASTRONOMY

PROFESSOR WELD; MR. BECK

The courses in Astronomy are described on page 205.

BACTERIOLOGY

PROFESSOR ALBERT, DR. EGDAHL, MR. BYRNES, MR. RICHARDS

The courses in Bacteriology are described on pages 354.

BOTANY AND FORESTRY

PROFESSOR MACBRIDE, PROFESSOR SHIMEK, MR. ——.

The courses in Botany and Forestry are described on pages 179-184.

CHEMISTRY

PROFESSOR ROCKWOOD; DR. VON ENDE, MR. KARSLAKE, MR. BRYDEN.

The courses in Chemistry are described on pages 189-196.

ECONOMICS

PROFESSOR LOOS; PROFESSOR PATTERSON.

The courses in Economics are described on pages 155-161.

ENGINEERING

PROFESSOR RAYMOND; PROFESSOR MAGOWAN, PROFESSOR WILDER, DR. WELLS, PROFESSOR WOODWARD, PROFESSOR ——, MR. LAMBERT, MR. BRYDEN, MR. SHAFF.

The courses in Engineering are described on pages 206-213.

GEOLOGY

PROFESSOR CALVIN; PROFESSOR WILDER

The courses in Geology are described on pages 185-188.

LANGUAGES

ENGLISH

PROFESSOR ANSLEY

The courses in English are described on pages 140-144.

FRENCH

PROFESSOR VAN STEENDEREN; ASSISTANT PROFESSOR BUSH, MISS VOSS, MISS SWIRE

The courses in French are described on pages 126-129.

GERMAN

PROFESSOR WILSON; ASSISTANT PROFESSORS STURM AND EASTMAN, MR. WIEHR AND MISS HAAN

The courses in German are described on pages 130-136.

SPANISH

PROFESSOR VAN STEENDEREN

The courses in Spanish are described on page 130.

MATHEMATICS

PROFESSOR WELD; DR. WESTFALL, DR. DODD, MR. BECK, MISS CRONIN

The courses in Mathematics are described on pages 198-204.

PHYSICS

PROFESSOR VEBLEN, PROFESSOR SMITH; MR. LORENZ, MR. KENT, MR. MUELLER.

The courses in Physics are described on pages 196-198.

ZOOLOGY

PROFESSOR NUTTING; PROFESSOR WICKHAM

The courses in Zoology are described on pages 175-179.

MILITARY SCIENCE AND TACTICS

COLONEL GEORGE RITTER BUENETT, WEST POINT, '80

(First Lieutenant U. S. Army, Retired.)

The courses in Military Science and Tactics are described on pages 213-215.

THE SUMMER SESSION

JUNE 19—JULY 29, 1905

THE SUMMER SESSION

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., 1871; M. A., 1874, Williams; B. D., 1877, Yale; PH. D., 1883, Leipzig; LL. D., 1895, Williams.

President, 1899.* 603 College St. (108 Old Capitol)

SAMUEL CALVIN, M. A., 1874, Cornell College; PH., D., 1888 Lenox; LL. D., 1904, Cornell College; F. G. S. A.

Professor and Head of the Department of Geology, 1874.
522 N. Clinton St. (108 Science Hall)

CHARLES BUNDY WILSON, B. A., 1884; M. A., 1886, Cornell University.

Professor and Head of the Department of German Language and Literature, 1888. (311 N. Capitol St. (101 Liberal Arts)

ANDREW ANDERSON VEBLEN, B. A., 1877; M. A., 1880, Carleton College.

Professor of Experimental Physics, and Secretary of the Faculty of the College of Liberal Arts, 1883. 707 Dubuque St. (Hall of Physics)

LÆNAS GIFFORD WELD, B. S., 1883; M. A., 1885, Iowa.

Professor and Head of the Department of Mathematics and Dean of the Graduate College, 1886. 612 N. Dubuque St. (113 Liberal Arts)

ISAAC ALTHAUS LOOS, B. A., 1876; M. A., 1879, Otterbein; B. D., 1881, Yale; D. C. L., 1898, Penn Coll.

Professor and Head of the Department of Political Economy and Sociology, and Director of the School of Political and Social Science, 1889. 11 E. Bloomington St. (205 Liberal Arts)

ELBERT WILLIAM ROCKWOOD, B. S., 1884, Amherst; M. D., 1895, Iowa; PH. D., 1904, Yale.

Professor and Head of the Department of Chemistry, 1888.
1011 Woodlawn. (Chemical Laboratory)

WILLIAM CRAIG WILCOX, B. A., 1888; M. A., 1891, University of Rochester.

Professor of American History, and Head of the Department of History, 1894. 629 N. Dubuque St. (222 Liberal Arts)

*Date following title indicates year of appointment to service in the University. The names are arranged in groups according to seniority of appointment to present rank.

GILBERT LOGAN HOUSER, B. S., 1891; M. S., 1892, Iowa; PH. D., 1901, Johns Hopkins.

Professor and Head of the Department of Animal Biology, 1892.
422 Iowa Ave. (101 Science Hall)

BENJAMIN FRANKLIN SHAMBAUGH, B. PH., 1892; M. A., 1893, Iowa; PH. D., 1895, Pennsylvania.

Professor and Head of the Department of Political Science, 1895.
219 N. Clinton St. (202 Liberal Arts)

CLARK FISHER ANSLEY, B. A., 1890, Nebraska.

Professor and Head of the Department of English, 1899.
1041 Woodlawn. (227 Liberal Arts)

HENRY EVARTS GORDON, B. A., 1879; M. A., 1901, Amherst.

Professor of Public Speaking, 1900.
303 N. Capitol St. (312 Liberal Arts)

ARTHUR FAIRBANKS, B. A., 1886, Dartmouth; PH. D., 1890, Freiburg, i. B.

Professor of Greek Literature and Archeology, and Head of the Department of Greek; Secretary of the Graduate Faculty, 1900.
7 E. Bloomington St. (310 Liberal Arts)

FREDERICK ELMER BOLTON, B. S., 1893; M. S., 1896, Wisconsin; PH. D., 1898, Clark.

Professor and Head of the Department of Education; Director of the Summer Session, 1900. 1019 College St. (217 Liberal Arts)

BOHUMIL SHIMEK, C. E., 1883; M. S., 1902, Iowa.

Professor of Physiological Botany; Professor of Botany in the College of Pharmacy, and Curator of the Herbarium, 1890.
529 Brown St. (201 Science Hall)

FRANKLIN HAZEN POTTER, B. A., 1892; M. A., 1895, Colgate.

Professor of Latin, 1895. 527 N. Linn St. (111 Liberal Arts)

CARL EMIL SEASHORE, B. A., 1891, Gustavus Adolphus; PH. D., 1895, Yale.

Professor of Psychology, 1897. 204 Fairchild St. (211 Liberal Arts)

STEPHEN HAYES BUSH, B. A., 1901; M. A., 1902, Harvard.

Assistant Professor in French, 1901.
127½ S. Dubuque St. (120 Liberal Arts)

JOSEPH JASPER MCCONNELL, B. A., 1876; B. Di., 1878; M. A. 1880, Iowa; LL. D., 1904, Coe College.

Lecturer on Education, 1891. Cedar Rapids, Iowa

JOHN VAN ETTEN WESTFALL, B. S., 1895, Cornell; PH. D., 1898, Leipzig.

Instructor in Mathematics, 1899. (12 Liberal Arts)

PERCIVAL HUNT, M. Di., 1897, Iowa State Normal; B. A., 1900 M. A., 1904, Iowa.

Instructor in English, 1900. 215 Ronalds St. (226 Liberal Arts)

JOSEF WIEHR, B. PH., 1904, Iowa.
Instructor in German in the Summer Session, 1905.
113 Prentiss St. (101 Liberal Arts)

DANIEL STARCH, B. A., 1903, Charles City College; M. A., 1904, Iowa.
Instructor in Philosophy in the Summer Session, 1905.
208 E. Burlington St. (211 Liberal Arts)

LUCY MARY CAVANAGH, B. S., 1896, Iowa.
Assistant in Botany in the Summer Session, 1905.
711 Church St. (Hall of Science)

EUGENE FREDERICK MUELLER, B. A., 1902, Iowa.
Assistant in Physics in the Summer Session, 1905.
128 Bloomington St. (Hall of Physics)

OTTO VICTOR WILLE.
Assistant in Animal Biology in the Summer Session, 1905.
422 N. Dubuque St. (101 Hall of Science)

Other instructors, demonstrators, assistants, or readers may be named later. Provisions may also be made for additional subjects. The privilege of modifying the present announcement to meet unforeseen exigencies is reserved. Not many changes are at all likely to occur.

THE SUMMER SESSION COMMITTEE

Professor BOLTON, chairman; Professor SHIMEK, secretary; Professors WILCOX, ANSLEY, ROCKWOOD.

GENERAL INFORMATION

GROWTH OF THE SUMMER SESSION

In the five years of its maintenance the attendance has more than doubled in numbers, and each year there has been an increasing number of advanced students to take advantage of the opportunities offered for uninterrupted study along special lines. During the last session sixty-seven graduate students were in attendance. Each year also a greater number of high school teachers and city superintendents have taken advantage of the opportunities offered.

FOR WHOM DESIGNED

The summer session is an integral part of the regular university work, being the first term of the scholastic year. New students can enter at this time as well as at the beginning of either semester. The courses are so arranged as to supplement those offered during the rest of the year, and hence new or old students find no difficulty in classifying and securing work adapted to their needs. The experience of previous sessions has demonstrated the value of the work for the following classes of students:

1. *Superintendents* and *principals* who desire to continue academic and professional work and come in touch with recent advances in education.

2. *High school teachers* who wish to study special subject matter or educational theory.

3. *Elementary and grammar school teachers.* Many courses, especially those in literature, education, psychology, ethics, history, politics, nature study, physiology, and sociology, will be of exceeding value to the teachers below the high school as well as those in the high schools. Success in the elementary school depends as much upon breadth of culture as upon technique and primary methods.

4. *Candidates for state certificates* will find an opportunity to strengthen themselves on most of the subjects included in the state examinations.

5. *Regular students of the University* who desire to shorten the time of their course may do so by attending the summer sessions. Many students throughout the country by this means graduate in three years.

6. *Normal school graduates* and others desiring to ultimately take a degree will find it to their advantage to attend.

7. *Graduate students* will find ample opportunity in all departments to pursue work advantageously.

8. Graduates of three-year high schools and of four-year high schools.

9. Persons who desire training in library work.

FACILITIES

All the resources of the University are placed at the disposal of the summer session. All the laboratories and libraries in the departments of letters and science will be open, and every department will offer work of a grade equal to that given during the rest of the year. In most cases the heads of the departments will give instruction.

No other institution in the state offers full college work in all departments during the summer session.

No other institution in the state offers such abundant opportunities for graduate study and advanced research, either during the year or during the summer. The State University maintains the only graduate college in the state.

The summer school for library training is the only one maintained in the north-central states west of the Mississippi.

ADMISSION

1. No entrance examinations are required for admission to the summer session. Any person may be enrolled who is deemed able to profit by the work given.

2. Students should have maturity and training equivalent to that represented by the completion of a high school course. Many teachers who have not completed a high school course, but who have had considerable experience in teaching and who have maturity of mind may profit by some of the courses offered.

3. Opportunities will be offered to secure elementary university courses in Greek, Latin, German, French, English, history, political economy, civics, physiographic geology, physiology, physics, chemistry, education, psychology, public speaking, algebra, and geometry.

4. Graduates of the smaller high schools which have less than four years of work will find work in English, foreign languages, and mathematics especially suited to their needs. Some of the work in other departments may also be selected.

5. New students generally enter the university in September or in February at the beginning of the second semester. However, there are many advantages in beginning work in the summer session, not only to the student who needs to strengthen his preparation, but also to the student who is thoroughly equipped. In a general way it is advantageous to any student to begin work in the summer session. In this way he may become familiar with the university and its methods of instruction before the heavier work of the year begins. Because the classes are smaller in the summer session, he may also receive more personal attention. Students may thus become thoroughly in touch with the University before the regular work of the year opens. Questions concerning courses to be pursued and all questions concerning entrance may be adjusted easier during the summer than when there is a rush of students in the fall. Then, by the opening of the regular semester, the student is ready for work in a deliberate manner. It is absolutely necessary for those who expect to shorten their course materially to take work in the summer sessions.

Students of the smaller high schools who expect to attend during the year, are especially urged to be in attendance at the summer session. By this means they may become better in line for the regular work of the year and thus reduce the time required for making up conditions.

ADMISSION TO REGULAR STANDING IN THE UNIVERSITY.

The scope and spirit of the work of the State University must, of necessity, be determined by the following statutory provisions:

It (the University) shall include a collegiate, law, and such other departments, with such courses of instruction and elective studies, as the board of regents may determine, beginning the same in its collegiate department, so far as practicable, at the points where the same are completed in high schools; and no one shall be admitted who has not completed the elementary studies in such branches as are taught in the common schools throughout the state. Sec. 2640, Code of Iowa.

In accordance with the above, and, happily, in accordance with the practice of leading American universities, the State University of Iowa has fixed its requirements for admission to first year (freshman) standing in the college of liberal arts and in the college of medicine at the equivalent of four years' work of high school grade. In Iowa there are about 170 high schools which satisfactorily maintain four year courses of study and which thereby hold places on the accredited list of the University. Upon the presentation of proper certificates, graduates of these schools are received without examination and without conditions into the first year classes of the several colleges of the State University. Besides these fully accredited high schools there are many whose facilities do not enable them to maintain satisfactorily the four year course, but in which a part of the work of such a course can be well done, and such schools are similarly accredited so far as they are known to conform to the recognized high school standards.

In view of the recent advance in its entrance requirements, the university authorities have extended the range of conditional admission for graduates from three year high school courses or other inadequate preparatory courses. Such graduates may pass directly to the university and complete in residence the requirements for admission to first year (freshman) standing. There are courses in English, in ancient and modern languages, in history, in science, and in mathematics, which are open to students thus admitted; but the university offers only such courses as may afford university credit to students fully prepared for admission. Other deficiencies in preparation may be made up outside the University. Opportunities are afforded by local preparatory schools and by approved tutors.

Graduates of three year high schools may enter the colleges of law, dentistry, pharmacy, and homeopathic medicine without conditions. For the present students who have completed two years of high school work will be admitted to the colleges of dentistry and pharmacy without conditions. In all colleges degrees are conferred only after the completion of all required preparatory and collegiate work. Thus, candidates for degrees in the college of liberal arts must earn the 30 credits required for full freshman standing in addition to earning the regular 120 university credits required of all graduates of this college.

UNIVERSITY CREDIT

1. Credit will be given for all work satisfactorily completed when the student has complied with the regular entrance requirements as stated in the annual announcements.

2. Credit will be given on the same basis as for the regular work of the year. That is, a course of one hour a week during the summer session will equal one-third of a semester hour; a course of two hours a week will equal two-thirds of a semester hour, etc.

3. Students desiring credit may not take more than twenty hours of work per week.

4. The maximum amount of credit which may be earned during a summer session is six and two-thirds semester hours.

PROJECTED REGISTRATION

By special permission of the faculty experienced teachers who have been in regular attendance during the summer session, and who are regularly matriculated in the University, may continue their work at home during the year. By this means they may reduce the residence requirements for graduation. The amount of work allowed in nonresidence will be determined for each case separately. Several superintendants and teachers are now carrying on work advantageously by this plan.

JOHNSON COUNTY TEACHERS' INSTITUTE

The Johnson County Teachers' Institute will be held during the last two weeks of the summer session. Several members of the university faculty will give instruction in it. Teachers in Johnson county and adjacent counties have an unusual opportunity to take advantage of the work in both the summer session and the institute. Teachers should, as far as possible, plan to be in the city and take summer session work during the entire six weeks. Several short series of lectures will be given, however, during the last two weeks which will be of special interest to teachers attending the institute or Chautauqua.

GENERAL LECTURES AND ROUND TABLE MEETINGS

Every summer a series of public lectures, many of them illustrated, has been provided without expense to the students of the summer session. Arrangements are under way to offer an especially attractive programme by members of the faculty, eminent superintendents and others. A definite programme of the lectures to be given will be announced at the opening of the session.

The general assembly and chapel exercises will be held every Wednesday at 9:45 a. m. in the general assembly room, hall of liberal arts.

Round table meetings for the discussion of various topics of interest to educators will be organized by those in attendance upon the session, as circumstances may suggest.

There will probably be opportunities to listen to addresses by prominent educators from other institutions.

Several departments offer teachers' courses in addition to the regular academic work.

SPECIAL COURSES

ENGLISH—In view of the increased interest in better English teaching in the public schools, and hoping to enable Iowa schools to continue in the lead in this advanced movement, a special effort has been made to provide courses that will be especially helpful to teachers of Eng-

lish in the high school and in the grades. Professor Ansley has consented to take charge of the work this year and will offer work in literature of special value to teachers and librarians. A thorough course in composition will also be offered.

NATURE STUDY—Professor Shimek of the department of botany will again offer a course in "out-door botany" that will be of value to every high school teacher of botany and every teacher in the grades. The attendance in this course last year is evidence of the large demand for it.

PHYSIOGRAPHY—The teachers' course in geographic geology proved so popular and helpful last year that it is offered again this year. It is designed to be of special value to teachers of physical geography in the high school. It will have distinct value for every grade teacher as well.

PHYSIOLOGY—The course in applied physiology will attempt to give an exemplification of what modern and thoroughly practical physiology should be. It will be of great value to students personally as well as desirable for teachers of physiology.

PUBLIC SPEAKING—Teachers who have charge of rhetoricals in the high schools will find these courses of great benefit to them in their work. Oral expression is the most useful practical application of English. Grade teachers may also find much in the courses that would find every-day application.

EDUCATION (a)—THE HIGH SCHOOL—Problems of the high school are everywhere attracting attention and there is necessity for their careful consideration. The period of life covered by the high school is one of the greatest concern in the whole life of the individual and therefore demands the wisest possible guidance. The interest in the course on the high school last year more than warrants its repetition.

(b) Superintendent McConnell of Cedar Rapids has been secured to give a course in school supervision and one in elementary pedagogy for grade and rural teachers. These are both practical courses and designed to consider every-day problems of the school room.

STATE EXAMINATIONS

In the special interest of those students who may wish to secure state certificates or state diplomas, the State Board of Educational Examiners will hold an examination at the University on July 27, 28, 1905.

EXPENSES

The tuition fee for the summer session is five dollars, which covers all dues to the University. Tuition is free in the graduate college.

There are no dormitories and no commons connected with the University. Clubs may be formed, in which the cost of day board is from $2.00 to $2.50 per week. Room rent varies from 50 cents to $1.50 per week for each student. Boarding and lodging in private houses can be obtained for from $3.50 to $5.00 per week.

Inquiries regarding rooms and board may be made of the registrar upon arrival at the University.

RAILWAY RATES

Students should pay full fare going, taking a receipt therefor. If more than one line of railway is traveled over, a receipt should be taken over each road. If the requisite number of certificates are presented to the director, the usual one-third rate will be granted for the return trip.

It is important that students secure receipts and present them to the director, as it is only by securing one hundred certificates that the reduced rates will be granted.

REGISTRATION

1. New students should see, first, the director of the summer session, room 217 Hall of Liberal Arts; second, the treasurer in the Old Capitol; third, the registrar in the Old Capitol.

2. Students who have been registered in the University at any previous time, either during a summer session or during a regular semester should go first to the treasurer and second to the registrar. Those already registered in the graduate college go at once to the registrar.

Office hours of the President of the University, 11 A. M. to 12:15 P. M.

Office hours of the Director of the Summer Session, 11 to 12 M. and 2:00 to 2:30 P. M. daily.

Any further information desired may be obtained by addressing President George E. MacLean, or Professor Frederick E. Bolton, Director of the Summer Session, Iowa City, Iowa.

OUTLINE OF THE PLAN OF INSTRUCTION

The courses afforded in the several departments represented in the summer session are here outlined. Those desiring more detailed information should communicate directly with the professors concerned.

GREEK

Professor Fairbanks

i. A Reading Course in Easy Greek Prose—For the purpose of drill in vocabulary and grammatical forms. This course can be taken by students who have had one or two years of Greek.

Daily, at 11:00.

Note. A course in beginning Greek or a course for advanced students may be given instead of the course announced. Students wishing to take Greek in the summer session are requested to correspond with Professor Arthur Fairbanks in order that the desired courses may be offered.

LATIN

Professor Potter, Professor Fairbanks

i. Cicero, Oration for Milo—This course may be taken to make up preparatory requirements in Caesar or Cicero. It is open to more advanced students also. Professor Potter.

Daily at 7:00.

ii. Suetonius, Selected Lives of the Caesars—A course for advanced students. Professor Fairbanks.

Daily at 10:00.

iii. Teachers' Course—The exercises on Monday and Tuesday will be devoted to a study of the methods and aims of teaching Latin. Particular attention will be given to the teaching of elementary Latin, to pronunciation and

the reading of Latin verse and to the work of the third half-year of the Latin course. The exercises on Wednesday, Thursday and Friday will consist of lectures on the syntax of the moods and tenses, with practical exercises in the syntax of the authors read in preparatory schools. Professor POTTER.

Daily at 8:00.

iv. THE TOPOGRAPHY OF ROME—Illustrated lectures and discussions on the topography and monuments of ancient Rome with special reference to the needs of secondary school teachers. The work is based on Platner's *Topography and Archeological Remains of the City of Rome.* Professor FAIRBANKS.

Daily at 9:00.

This hour is subject to change to suit the needs of the class.

During the summer session the department will offer one or more lectures (illustrated with lantern slides) on ancient Rome and Pompeii.

GERMAN LANGUAGE AND LITERATURE

PROFESSOR WILSON; MR. WIEHR

i. GERMAN DRAMA—Applicants for this course must have studied German at least one year. Conducted in German and English. Professor WILSON.

Daily, at 8:00.

ii. GERMAN POETRY—An attempt will be made to show the beauties of some of the best and most characteristic German lyrics and ballads. Professor WILSON.

Daily, at 9:00.

iii. GERMAN LIFE—A course of lectures in German on German life, institutions, and customs. There are occasional discussions of the topics treated in the lectures. The course thus affords incidentally an opportunity for practice in conversation. Mr. WIEHR.

Daily, at 10:00.

iv. GERMAN COMPOSITION—Designed to give practice in composition and niceties of idiom and special drill in pronunciation. Conducted in German. Mr. WIEHR.

Daily, at 11:00.

FRENCH

ASSISTANT PROFESSOR BUSH

i. ELEMENTARY COURSE IN FRENCH—Designed for teachers and students who wish to learn to read French sufficiently well to enable them to continue the study themselves for the purpose of research in other branches and for general culture. Good training in pronunciation. Study of grammar for reading purposes only. *Edgren's Short French Grammar* and *Quatre Contes de Mérrimée.*

Daily at 9:00.

ii. READING COURSE—Open to students who have had one semester at least of French. The class will read one play, *Le Voyage de M. Perrichon,* and a number of short stories. Opportunities for expression in French will be given.

Daily at 1:30.

iii. CONVERSATION AND PRONUNCIATION—This course aims to give such facility in speaking and understanding the language as the time and proficiency of the students electing it will permit. The method employed will depend largely upon the latter. Open to students who have had one semester of French.

Mon., Wed., Fri., at 11:00.

ENGLISH

PROFESSOR ANSLEY; MR. HUNT

i. COMPOSITION—Practice in the construction of effective English prose, with observation of the principles involved. Lectures, criticism of written exercises, and studies in the work of representative modern writers. Mr. HUNT.

Daily, at 10:00.

ii. CHAUCER—The pronunciation of Middle English is studied and practiced and the structure of the language is considered with the object of attaining the ability to read readily in the literature of Chaucer's time. Professor ANSLEY.

Mon., Wed., Fri., at 8:00.

iii. SHAKESPEARE—Some elements of literary art exemplified in the plays of Shakespeare. The Tragedy of Hamlet is studied in detail. Professor ANSLEY.

Daily, at 9:00.

iv. NINETEENTH CENTURY POETRY—Studies in Wordsworth, Tennyson and Browning as representative English poets of the nineteenth century. Mr. HUNT.

Daily, at 11:00.

v. THE INDUSTRIAL ART MOVEMENT—Twelve lectures upon the work of William Morris and his influence in industry, art and education. Professor ANSLEY.

Tu., Th., at 8:00.

PUBLIC SPEAKING

PROFESSOR GORDON

i. THE ART OF PUBLIC SPEAKING—This is an elementary course, covering preparatory work fundamental to literary interpretation, oratory and debate.

Daily at 8:00.

ii. EXTEMPORE SPEAKING—This is a practical course in speaking, seeking to develop the best forms in platform work both as to content and delivery.

Mon., Wed., Fri., at 9:00.

iii. LITERARY INTERPRETATION—This is a study of lyric, epic, dramatic and oratoric forms with reference to their vocal expression.

Tu., Th., at 9:00.

The three above courses are open to any student regardless of previous preparation and study in the subject of public speaking.

HISTORY

PROFESSOR WILCOX

i. ENGLAND UNDER THE HOUSE OF HANOVER—This is a course of lectures on the last two centuries of English history. An attempt is made to depict the unfolding of English affairs from the accession of George I in 1714 down to the death of Gladstone. Special emphasis is laid upon

the development of English political institutions during the period under discussion.

Daily, at 10:00.

ii. THE BUILDING OF THE CONSTITUTION OF THE UNITED STATES—This is a course of lectures on the period of American history prior to the establishment of the government under the constitution in 1789. An attempt is made to trace the steps which led up during two centuries to the revolutionary war, the articles of confederation and finally to the constitutional convention in 1789.

Daily, at 1:30.

iii. SIX UNELECTED PRESIDENTS OF THE UNITED STATES—This course consists of a series of six lectures which are delivered Saturday mornings at 9 o'clock in the auditorium in the hall of liberal arts. These lectures are accompanied by full printed syllabi and are open to all students and to the public without registration.

Saturday, at 9:00.

Candidates for advanced work of an individual nature will be able to pursue such work as well as during the regular session of the University. This work is conducted by special conferences accompanied by research in the library. A special invitation is extended to candidates for advanced degrees to avail themselves of the opportunity afforded for such work by the summer session.

POLITICAL ECONOMY AND SOCIOLOGY

PROFESSOR LOOS

i. THE PRINCIPLES OF ECONOMICS—The scope and method of economic science; the theory of value and price; industrial organization including exchange; the distribution of wealth and the economic functions of government.

Daily at 8:00.

Note—This course is designed as a general survey of economic science and is recommended to those who have taken preliminary courses in economics; it is also open to beginners.

ii. INDUSTRIAL AND SOCIAL HISTORY — The mediæval manor and town; the beginning of modern trade and industry; the industrial revolution; the rise of the classical

political economy and the consequent epoch of reform; the cooperative movement and socialism; recent tendencies in legislation.

Daily at 11:00.

iii. SEMINARY—Selected topics in economics and sociology. Two hours; time to be arranged.

POLITICAL SCIENCE

PROFESSOR SHAMBAUGH

i. IOWA HISTORY AND POLITICS—Lectures on the political and constitutional history of Iowa. An attempt will be made to make this course especially helpful to those who are interested in the teaching of civics in the public schools. Some attention will be given to the methods of teaching civics.

Daily, at 7:00.

ii. MODERN EUROPEAN GOVERNMENTS—A comparative study of the leading governments of modern Europe including the Government of England, the Government of Switzerland, the Government of France, the Government of Germany, and the Government of Belgium.

Daily, at 9:00.

PHILOSOPHY AND PSYCHOLOGY

PROFESSOR SEASHORE; MR. STARCH

i. INTRODUCTION TO PSYCHOLOGY—A brief survey of the entire field of psychology, especially adapted for teachers who can take only a short course. The lectures will be accompanied by demonstrations with apparatus and other illustrative material from the psychological laboratory, and by supplementary reading. The course serves as an introduction to all other courses in the department of philosophy. Professor SEASHORE.

Daily, at 8:00.

ii. INTRODUCTION TO PHILOSOPHY—An elementary study of fundamental philosophical questions with some reference to historical relations. Designed for students who wish to make a brief study of the great problems of philosophy and their significance in other fields of thought.

Paulsen's *Introduction to Philosophy* will be used as a basis. Lectures, required reading, and recitations. Mr. STARCH.

Daily, at 9:00.

iii. ETHICS—An elementary course on the psychology of conduct and the moral judgment, the development of conduct and ethical theories, the standards of morality, duties, virtues, and the moral life of the individual and society.

Daily, at 10:00. Not given in 1905.

iv. LABORATORY COURSE IN PSYCHOLOGY—A series of selected experiments so arranged as to familiarize the students with the method, the apparatus, and the results of typical experiments in each of the approved lines of psychological studies and especially to furnish training in accurate observation and interpretation of mental processes. May be taken with or in sequence to course i. Three laboratory periods and two lectures a week. Professor SEASHORE.

Daily. Laboratory, Mon., Wed., Fri., 1:30 to 3:30.

Lectures Tu., Th., at 1:30.

v. RESEARCH IN PSYCHOLOGY—Original investigation of special problems in psychology. Advanced individual work in the laboratory for graduate students. In this course special attention may be given to preparation for the experimental study of school children. Professor SEASHORE.

EDUCATION

PROFESSOR BOLTON; SUPERINTENDENT MCCONNELL

Courses i, iii, iv and v will not be duplicates of work given last summer. Students who took those courses may take those offered this session as supplementary.

i. EDUCATIONAL PSYCHOLOGY—A series of lectures upon selected topics from educational psychology. Such topics as the use and training of memory, imagination, the emotions, and the will; instinct, heredity, and imitation, etc., will be considered. Superintendents and teachers desiring to consider carefully from the most modern stand-

points some of the most fundamental principles of education will find this course adapted to their needs. Professor BOLTON.

Daily, at 2:30.

ii. CHILD STUDY AND ELEMENTARY EDUCATION—The scope, methods, and literature of child study; its relation to elementary education, and its value and necessity for parents and teachers. Such topics as imitation, children's play, imagination, the beginnings of child language, elementary ideas of law and order, beginnings of moral notions, fears, use of stories, nature study, etc., will be considered. Lectures and readings. Professor BOLTON.

Daily, at 4:30.

iii. THE HIGH SCHOOL—General problems of organization, historical considerations, relations to the lower grades and to the colleges, courses of study, educational values, sequence of studies, methods, text-books, government and training of adolescents, special problems of Iowa high schools. Lectures and readings. *Designed to be taken with course iv. but may be taken separately.* Professor BOLTON.

Fifteen lectures. At 3:30, on days to be announced.

iv. SCHOOL SUPERVISION—Designed to consider in a practical manner the problems of school supervision in city and village systems and in high school and ward buildings. *This course should be taken with course iii but may be taken alone.* Superintendent MCCONNELL.

Fifteen lectures. At 3:30, on days to be announced.

v. ELEMENTARY PEDAGOGY—For graded school and rural school teachers. Designed to deal with practical problems of teaching in these classes of schools. Superintendent MCCONNELL.

Fifteen lectures. Time to be announced.

vi. WEEKLY ROUND TABLE—The purpose will be to discuss current educational topics and to get in touch with educational literature. Credit given, if taken in connection with some other course. Professor BOLTON; Superintendent MCCONNELL.

Wed., at 4:30.

vii. RESEARCH WORK FOR ADVANCED STUDENTS — Ad-

vanced students pursuing research and special investigations will be afforded ample opportunities and will receive personal direction in their work. Professor BOLTON.

ANIMAL BIOLOGY

PROFESSOR HOUSER; MR. WILLE.

i. PRINCIPLES OF PHYSIOLOGY—Lectures, with supplementary demonstrations. This course presents a general view of the aims and the more important results of animal physiology; it is planned with reference to the needs of the high school teacher.

Daily, 1:30 to 2:20.

ii. APPLIED BIOLOGY—An advanced course of lectures and demonstrations. The subjects considered include: foods—their chemical composition, changes induced by cooking, means of preservation, common adulterants; modern dietary and nutrition studies; micro-organisms of disease, their general biology, their dissemination by means of air, water, food-products, animal agents; disinfection; animal parasites; conditions affecting health in the home and school; muscular exercise, the nervous system, sleep, and other factors of student life. The work is broadly biological in scope, and is of especial value as an introduction to the problems of teaching, medicine, and sanitation.

Daily, 9:10 to 10:00.

iii. PRINCIPLES OF BIOLOGY—Lectures giving a rapid survey of the entire field of biological science, presented from the standpoint of animals.

Tu., Th., 10:00 to 11:00.

BOTANY

PROFESSOR SHIMEK; MISS CAVANAGH

i. A TEACHERS' COURSE IN PLANT ECOLOGY—Intended primarily for teachers of botany in Iowa high schools. The course consists of laboratory and field investigation of the local flora, with special reference to the conditions which determine the distribution of plants, especially in Iowa. It is essentially a study of the "botany of out-of-doors," and is intended to familiarize the teacher with illustrative material available for class use.

Directions and opportunities are also offered for the preservation of such illustrative materials for high school use.

In connection with this course one hour a week will be devoted to the discussion of certain phases of nature study.

The latter exercise is open to students of the summer session in all other courses, but without credit.

The entire course will require five hours a week.

ii. COMPARATIVE MORPHOLOGY OF PLANT TYPES—This course consists of lectures and laboratory investigation of the structure and life-history of local and state types of the principal groups of plants. Two hours daily are required in the laboratory. Slime moulds, schizophytes, diatoms, algæ, fungi, mosses, ferns, and flowering plants are successively taken up in the laboratory, and some attention is also given to field work.

Five hours a week.

iii. SPECIAL COURSES — A limited number of special courses in advanced botanical research may be arranged for those who are prepared for such work. Time arranged to suit applicants.

Illustrated lectures will supplement all of the courses.

The extensive collections in the university herbarium, and the botanical reference library, will be available for reference.

GEOLOGY

PROFESSOR CALVIN

i. INVERTEBRATE PALEONTOLOGY—Fossils furnish the key to the age of sedimentary rocks. The native rocks of Iowa are mainly fossiliferous sediments. A course in invertebrate paleontology is offered with the purpose of giving the student such acquaintance with fossil faunas as will enable him to determine the age of rocks containing recognizable organic remains. The principles of classification will be briefly presented, and the most important fossil types will be studied and described from museum material, or from specimens collected in the field.

Laboratory course, daily, 8:00 to 10:00 A. M.

ii. GEOGRAPHIC GEOLOGY—This is a course intended to meet the needs of those who expect to teach physical geography and geology in high schools. It will include a study of the origin of the physical features of the earth, the agencies of geographical development and change, and an outline of historical geology. Large use will be made of illustrative materials, including rocks and mineral specimens, models, maps, photographs and lantern slides. A number of field excursions are included in the course.

Daily, at 10:00.

CHEMISTRY

PROFESSOR ROCKWOOD

i. DESCRIPTIVE INORGANIC CHEMISTRY—This is an elementary course planned for those who wish to give instruction on the subject in secondary schools. It will deal principally with the non-metallic elements although the metals will also be considered. The lectures will be illustrated by experiments; in the laboratory opportunity will be given for practice in these and for learning the more important chemical manipulations. Five lectures and three to five laboratory periods each week.

ii. QUALITATIVE ANALYSIS—Such a knowledge of general chemistry as may be gained in one year of a high school course is a prerequisite. The work is for the most part done in the laboratory although lectures, demonstrations and recitations will be included. Three to five periods each week.

iii. VOLUMETRIC ANALYSIS—This course serves as an introduction to more difficult methods of quantitative analysis. It is mainly laboratory work; lectures will be given as are necessary. After an elucidation of the general principles the preparation of standard solutions, sources of error and practical applications will be illustrated. The same preparation is necessary as for course ii. Three to five periods each week.

iv. CHEMICAL RESEARCH—For this a knowledge of inorganic and organic chemistry including qualitative and quantitative analysis, is essential, also a reading knowledge of French and German. Subjects will be assigned to meet individual requirements. Twenty to thirty hours weekly.

PHYSICS

PROFESSOR VEBLEN; MR. MUELLER

i. SOUND AND LIGHT—A course of lectures and recitations, accompanied by experimental demonstrations, to cover substantially the same ground as that gone over in the regular first year course in these topics, as given during the regular university session. To pursue this course successfully students will need at least as much mathematical preparation as that required to obtain full freshman standing on entering the University.

Daily, at 11:00.

ii. LABORATORY WORK—The work in the laboratory being entirely individual, students of various degrees of advancement can be accommodated at the same time. It is required, for admission to laboratory courses, that the candidate should have at least a good elementary preparation in physics. Students who have had work equivalent to the first year's course in physics in the University, may obtain university credit for laboratory work pursued for not less than six hours a week during the session. For teachers the work in the laboratory can be arranged to meet individual needs, such as gaining familiarity with particular pieces of apparatus, or carrying out special lines of experimentation.

The laboratory will be open to students every forenoon and afternoon except Saturday, and it is expected that each student will work during two consecutive hours upon each exercise. Courses of two or more exercises a week may be arranged. Amount of credit to be determined at the end of the term.

iii. GRADUATE WORK—The laboratory and the special library of the department will be open to graduate students under the usual conditions. They will enjoy the same facilities and advantages as are offered at other times of the year to those pursuing special or advanced work.

If it be found useful and desirable, in addition to the courses here outlined, lectures will from time to time be given on special topics, such as development of laws and formulas or the practical presentation of subjects by the aid of illustrations and demonstrations. Conferences for the

discussion of methods of class and laboratory teaching may be conducted by the instructors, if desired by teachers and those preparing to teach.

MATHEMATICS AND ASTRONOMY

PROFESSOR WELD; DR. WESTFALL

The following courses in mathematics will be given with special reference to the needs of high school teachers. University credit may be given only for courses v and vi, and under certain circumstances course ii. Courses iii and iv are arranged with reference to the needs of teachers preparing to take examinations for state certificates and diplomas and of students seeking admission to the University.

The instructors will give liberally of their time and service to those wishing direction in any of the lines of study coming within the scope of the department. Special appointments will be made with individuals.

i. ALGEBRA—Only such topics as are required for admission to the University will be treated in this course. Drill work in the fundamental operations will be given, especially in factoring. Ratio and proportion, involution and evolution, and simple quadratic equations will also be carefully studied. Dr. WESTFALL.

ii. ALGEBRA—This will be essentially a teachers' course, both the subject matter and methods of presentation being given careful attention. The theories of the minus sign and of the exponent will be considered at the outset. The simple equation of the first degree will next be studied and geometrically interpreted, after which the quadratic equation and equation of higher degrees will be treated in a similar manner. Attention will also be given to systems of simultaneous equations. The course will include a study of imaginary expressions, and their interpretation. Professor WELD.

Mon., Wed., Fri., at 10:00.

iii. PLANE GEOMETRY—This course will be presented with due reference to methods of instruction. The so-called *heuristic*, laboratory, and other methods of teaching geometry will be discussed and illustrated. At the same time

the work will be so conducted as to enable the student to obtain a comprehensive view of the subject. Especial notice will be taken of the needs of those intending to pass the examinations for state diplomas or for admission to the University. Dr. WESTFALL.

Mon., Wed., Fri., at 9:00.

iv. SOLID GEOMETRY—Those deficient in solid geometry and who intend to enter the University in the near future will be given an opportunity to make up this requirement for admission to full freshman standing. Dr. WESTFALL.

Tu., Th. at 9:00.

v. TRIGONOMETRY—This course will be limited to plane trigonometry and can be taken only by those having a good knowledge of geometry and algebra. The subject will be studied with special reference to its practical applications to surveying, navigation, mensuration, etc. Credit, one semester hour. Professor WELD.

Tu., Wed., Thu., Fri., at 8:00.

vi. HIGHER MATHEMATICS—Courses in higher mathematics will be arranged, with only reasonable limitations to meet the requirements of all who may present themselves for such work. Correspondence with reference to the specific lines of work desired is invited. The credit allowed will depend upon the amount and quality of the work done. Special appointments will be made if necessary. Professor WELD; Dr. WESTFALL.

Mon., Wed., Fri., at 9:00, and Tu., Th., at 10:00.

vii. ASTRONOMY—If desired, a brief course in practical astronomy will be given. The instruments at the observatory will be used for the determination of time, latitude and longitude. Many of the more interesting celestial objects will be located and studied with the aid of the telescope. The subject will be further illustrated by the exhibition of the series of lantern slides belonging to the department. Time to be arranged. Professor WELD.

THE SUMMER SCHOOL

FOR

LIBRARY TRAINING

A DEPARTMENT OF THE SUMMER SESSION, UNDER THE AUSPICES OF THE

IOWA LIBRARY COMMISSION

MEMBERS OF THE COMMISSION *Ex-officiis*

JOHNSON BRIGHAM, *State Librarian,*
President.

JOHN F. RIGGS, *State Superintendent of Public Instruction.*

GEORGE E. MACLEAN, *President of the State University of Iowa.*

MEMBERS OF THE COMMISSION BY APPOINTMENT

MRS. HORACE M. TOWNER, Corning.

MRS. DAVID W. NORRIS, Grinnell.

MRS. HENRY J. HOWE, Marshalltown.

CAPTAIN W. H. JOHNSTON, Ft. Dodge.

ALICE S. TYLER,
Secretary of the Commission.

THE SUMMER LIBRARY SCHOOL

The Iowa Library Commission announces the fifth annual session of the summer school for library training to be held at the State University of Iowa, Iowa City, as a department of the summer session of the University, June 19, to July 29th, 1905.

OBJECT

This course is intended primarily, to meet the needs of the smaller public libraries in Iowa. Librarians already holding positions in the state, assistants in the larger libraries and those definitely appointed to library positions who wish to prepare for their work are given the preference in making up the class. The course is in no sense offered as

a substitute for the full training of one of the regular library schools, but is given for those who feel their lack of knowledge of modern library methods and have not the time nor the means to attend a full-course school. By securing a leave of absence for six weeks, this brief systematic course, will give a broader view of the work as a whole, and a knowledge of as much of the technical work of a library, as can be compressed in the six weeks of close work. A course of literary criticism is also included in order that the librarian's knowledge of books may be stimulated and developed.

SUBJECTS.

In all cases where the subject admits, instruction will be accompanied by practice work which will be carefully revised and criticised.

The following subjects will be included in the lectures given during the course:

Note-taking,
Library handwriting,
Book selection and buying,
Trade bibliography,
Mechanical prepafation of books,
Accessioning,
Shelf listing,
Classification,
Author numbers,
Cataloging,
Serials,
Loan systems,
Statistics,
Library work with children,
Reference work,
Reading lists,
Interior arrangement of a library,
Libraries and schools,
Library commissions and traveling libraries,
Library administration,
Binding and repair of books,
State and U. S. publications.

INSTRUCTORS

The School will be under the direction of the Secretary of the Commission who will give lectures on general library subjects, with the needs of the Iowa libraries especially in view. Mr. Malcolm G. Wyer, librarian of the State University, will have charge of the course in reference work, and the instruction will be based upon Miss Kroeger's *"Guide to the Study and Use of Reference Books."* Miss Delia C. Sanford, the head cataloger at the University library, will give the instruction in accessioning and cataloging; the cataloging instruction is based on the assumption that the student has had no experience in this work and desires a general knowledge of author, title and subject entries; as much time will be given to the latter, as is possible in such a brief course. Classification, book numbers, shelf list and related topics will be given ample consideration by an instructor familiar with these subjects. Miss Fanny Duren, who has been associated with the Commission in organizing work in the State for the past year, will again serve as reviser and will give some instruction on subjects with which her experience as an organizer, makes her familiar.

A course in literary criticism based on the study of Shakespeare's Hamlet will be given by Professor Clark Fisher Ansley, professor of English in the State University. This offers an unusual opportunity to the librarians of the state, to become familiar with some elements of literary art that enter into the estimate of books, and under such an instructor as Professor Ansley, it is believed that this course will prove of the greatest value to those who are privileged to attend.

Library work with children will be especially considered during the last two weeks of the session, as there is no part of the public librarian's work which is so fraught with far-reaching results, as the work with children. A study of children's literature and methods of work with the children, and the conduct of a children's room will be presented by an instructor who has made this work a specialty.

Lectures will be given during the course by members of the faculty of the State University, and by the Library Commissioners. Librarians of some of our most successful libraries, will visit the school and talk upon themes of especial interest.

Books are provided by the Library Commission for the practice work of the students, and the books have been selected with a view to exemplifying the instruction given in the class room. The library of the State University, consisting of about 60.000 volumes, and the public library o Iowa City, of over 4,000 volumes, are available for the uses o the students.

ENTRANCE REQUIREMENTS

The course is intended especially for Iowa librarians who are in charge of small libraries. Those who have had some experience in library work or wish to prepare for definite positions will be given preference. Inasmuch as emphasis is laid on practice work and prompt technical revision and correction, the number admitted to the class must be limited.

Students will be admitted from other states if they meet the admission requirements and if the limit of students is not reached by Iowa applicants. Entrance examinations are not required, but candidates are supposed to have completed a high school course or its equivalent.

As the course in library work with children deals with a subject of such general interest, students will be admitted for this course whether engaged in library work or not, and those from other states will be welcomed.

Applications should be made on the blank form to be obtained of the director, Miss Alice S. Tyler, Iowa Library Commission, Des Moines, and should be sent in not later than May 15, 1905.

The following books will be used in the summer school. Those marked with an asterisk are published by the U. S. Bureau of Education, Washington, D. C., and will be sent to any address without charge and should be ob-

tained of the Bureau at once. Others will be on sale at the school.

Dewey.	Simplified library school rules	$1.25
	Decimal classification (or)	5.00
	Abridged edition (may be used if student owns it)	1.50
*	Papers prepared for World's Library Congress, 1893	Free
*Cutter.	Rules for a dictionary catalogue	Free
	Decimal author table (two-figure)	1.25
American	Library Association. List of subject headings	2.00
Dana.	Library primer	1 00
	A. L. A. Catalogue, 1904	.25
Kroeger.	Guide to the study of reference books	1.25

Supplies for practice work may be obtained at the school, the cost of which, aside from the books, will probably not exceed $5.00.

EXPENSES

Tne tuition fee in the library school is $10.00 for the regular first year's course, including the course in library work with children. For this latter course alone the fee will be $5.00.

To those returning for the second year's course in cataloging the tuition fee will be $5.00 and these students are advised to take one additional course in the university summer session.

The additional cost of library material necessary for practice work and the necessary text books will not exceed $10.00.

There are no dormitories and no commons connected with the University. Clubs may be formed, in which the cost of day board is from $2.00 to $2.50 a week. Room rent varies from 50 cents to $1.50 per week for each student. Boarding and lodging in private houses can be obtained for from $3.00 to $5.00.

Lists of desirable places will be furnished each student upon application to the director of the school.

REGISTRATION

Students on coming to the University should present themselves at the office of the director of the summer session, hall of liberal arts, for registration.

Students are requested to register before 12 o'clock on Monday, June 19, as the class work will begin at two o'clock on that day.

Address all communications regarding the instruction to Miss Alice S. Tyler, Secretary Iowa Library Commission, Des Moines, Iowa.

THE COLLEGE OF LAW

COLLEGE OF LAW

THE FACULTY

GEORGE EDWIN MACLEAN, PH. D., LL. D.,
President.

CHARLES NOBLE GREGORY, M. A., LL. D.,
Dean.

SAMUEL HAYES, M. S., LL. B.,
Resident Professor of Law.

ELMER ALMY WILCOX, B. A.,
Resident Professor of Law and Secretary of the Faculty.

LAWRENCE MARSHALL BYERS, M. A., LL. B.,
Resident Professor of Law in Charge of the Practice Court.

BARRY GILBERT, B. A., LL. B.,
Resident Professor of Law.

EMLIN MCCLAIN, M. A., LL. D., Justice Supreme Court of Iowa,
Honorary Professor of Jurisprudence.

HORACE EMERSON DEEMER, LL. D., Justice Supreme Court of Iowa.
Honorary Professor of Jurisprudence.

SMITH MCPHERSON, LL. B., U. S. District Judge Southern District of Iowa,
Lecturer on Law.

HENRY M. TOWNER, Judge of Third District, State of Iowa.
Lecturer on Constitutional Law.

MERTON LEROY FERSON, B. PH., LL. B.,
Librarian.

THE COLLEGE OF LAW

LENGTH OF COURSE

The College of Law was organized as a department of the University in 1868, the course of study covering one year. In 1884 the General Assembly passed an act requiring two years' study for all candidates for admission to the bar, and the course of study in this department was extended to the same period. By act of the Twenty-eighth General Assembly (see Acts of the Twenty-eighth General Assembly, Chapter 11, Supplement to Code, § 310) the period of study for admission to the bar was extended to three years, and a preliminary education substantially equivalent to a three years' high school course was required. With the view of conforming the course of study in the College of Law to this legislation and qualifying the graduates of the college for admission to the bar, the board of regents at its meeting in March, 1900, authorized the extension of the course from two to three years. The extension was made and the class of 1901 was the last class to graduate in the two years' course. The course is now one of three years.

INSTRUCTIONAL STAFF

At present the instruction is in the hands of a dean and four resident professors who devote their entire time to the school, and lecturers who give extended courses.

REQUIREMENTS FOR ADMISSION

Graduates or matriculates of reputable universities or colleges, or graduates of state normal schools, may be admitted to the first-year class without examination upon presentation of diplomas or certificates showing such graduation or matriculation.

Graduates in the four-year courses of accredited high schools or academies may be admitted to the first-year class without examinations upon presentation of diplomas or proper certificates of graduation.

Graduates of other high schools or academies whose courses of study are approved by the University and are at least three years in length, may be admitted to the first-year class without further examination upon presentation of certificates signed by the superintendent or principal and containing specific statements as to the amount of work done in each study. Blank certificates will be furnished upon application to the president of the University, the dean of the College of Law, or the University examiner.

Applicants presenting certificates for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

All other applicants for admission will be required to pass entrance examinations in the subjects named in the programme given below, and prescribed by the supreme court of Iowa for the preliminary examination of applicants for admission to the bar.

PROGRAMME OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 18, to Wednesday, September 20, 1905

Arithmetic,	1 credit,*	Monday,	1:30 P. M.
English and English Grammar,	2 credits,	Tuesday,	4:30 P. M.
Reading,		Wednesday,	11:30 A. M.
Geography,	1 credit,	Tuesday,	9:30 A. M.
English History,	1 credit,	Tuesday	11:00 A. M.
United States History,	1 credit,	Tuesday,	1:30 P. M.
Civil Government,	1 credit,	Tuesday,	2:30 P. M.
Economics,	1 credit,	Tuesday,	3:30 P. M.
Algebra,	3 credits,	Wednesday,	8:00 A. M.
The Elementary Principles of the Government Land Survey,	1 credit,	Wednesday,	9:00 A. M.
Physics,	2 credits,	Wednesday,	1:30 P. M.

Orthography and writing will be judged from the manuscripts presented.

*One preparatory credit is defined as the equivalent of *one* high school study *five* times a week during a semester at least *eighteen weeks* in length on the basis of *four* studies a day.

SECOND SEMESTER

Thursday, February 8, to Saturday, February 10, 1906.

The examinations will be held at the same hours as in the programme above, reading Thursday, Friday, and Saturday for Monday, Tuesday, and Wednesday, respectively.

For *each separate* examination given at any other time than that announced in the programme which precedes, a fee of *one dollar* will be charged by the University. For *a series* of examinations covering two or more subjects a fee of *two dollars* will be charged. Special examinations are given only on permission of the faculty for good cause shown.

Applicants may offer themselves for examination in subjects which are real equivalents of any mentioned in the foregoing programme.

Any person expecting to enter the College of Law is advised to learn before the opening of the semester exactly what entrance examinations he will be required to pass. He can learn this by addressing the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programme given above.* He should present himself at once at the office of the university examiner, who will give all necessary directions.

Any student displaying marked illiteracy in English may at any time by the rule of the College of Law be required by the faculty to take instruction in English.

Students will find it to their advantage to enter at the beginning of a semester and best to enter at the beginning of the university year.

ADVANCED STANDING

SECOND YEAR

Applicants for admission to second year standing must comply with the conditions hereinbefore set out for candidates for the first year class, and in addition thereto furnish certificates from approved law schools of work completed in or must pass successful examinations in five

of the principal subjects of the first year, or their equivalents, namely, contracts, torts, evidence, agency, real property, domestic relations, and criminal law and procedure; they must also furnish either a certificate showing one year's study of law in a reputable law school, or the affidavit of a member of the bar in regular practice, stating that the applicant has pursued a regular course of study of the law in his office for twelve months. Applicants who have already been admitted to the bar in states where an examination is required, may enter upon presentation of certificate showing admission to practice.

A form of affidavit of study in a law office which may be used is here inserted:

Form Approved by Attorney-General, June 25, 1902.

STATE OF..... } ss.
.....COUNTY. }

....., being first duly sworn, deposes and says that he is a member of the bar of the State of..... ....., in regular practice, and has been such for more than ..... years last past. That ....., the applicant for admission to the bar, actually and in good faith pursued a regular course of the study of the law in the office of deponent for the period of ...., beginning on the ..... day of ...., 190.., and continuing until the ..... day of ....., 190...

And deponent further says that the said..... was diligent and attentive in the pursuit of his studies, and that he actually and in good faith devoted the entire time hereinbefore mentioned to the study of the law.

.....

Subscribed in my presence and sworn to before me this ..... day of ....., 190...

.....

THIRD YEAR

Applicants for admission to third year standing must comply with all the conditions hereinbefore set out for candidates for admission to the first year class, and in addition

thereto furnish certificates from approved law schools of work completed in or must pass satisfactory examinations in five of the principal subjects of the first year course or their equivalents set out under the provisions governing second year standing; also in six of the principal subjects of the second year course, viz.: Bills and notes, sales, wills, probate law, partnership, corporations, equity, equity pleading, and real property, or the equivalent of these subjects; they must also present certificates or affidavits showing two years' study of law as above, one of which must have been in a reputable law school and the other either in a reputable law school or in the office of an attorney in active practice.

Students will not be admitted to classes in advance of their time credits.

Examinations for advanced standing will be held on Tuesday, September 19, 1905, at 9:00 A. M., in the Old Capitol building. They cannot be given at other times.

CREDITS FROM OTHER LAW SCHOOLS

As indicated above, students may be credited for work completed in other law schools which are approved to the extent of two years, if such work and attendance are duly certified, without examination in this college.

SPECIAL STUDENTS

Applicants for admission to the College of Law, not candidates for a degree, but desiring to pursue special subjects, will be admitted on complying with the admission requirements governing candidates for degrees, or on showing by a special examination that they are qualified to pursue the subjects desired.

COURSE OF STUDY

The course of study is so arranged that the several classes have separate and distinct courses of study throughout. The elementary courses are grouped in the first year, and the specialized courses in the second and third years, the design being to cover the fundamental subjects of the law and to equip the student for the active practice of the profession.

FIRST YEAR

FIRST SEMESTER

Subject	*Text*	*Instructor*	*Per Week*
Contracts	Keener's Cases on Contracts	Dean Gregory	3 hrs
Torts	Cooley on Torts; Chase's Cases on Torts	Prof. Hayes	3 hrs.
Code Pleading	Iowa Code	Prof. Byers	2 hrs.
The Law of Persons	Woodruff's Cases on Domestic relations and the Law of Persons	Prof. Wilcox	2 hrs

SECOND SEMESTER

Evidence	Jones on Evidence	Prof. Byers	3 hrs.
Agency	Wambaugh's Cases on Agency	Prof. Gilbert	2 hrs.
Criminal Law and Procedure	McClain's Outlines of Criminal Law and Proced., or Clark's Crim. Law and Beale's Crim. Procedure	Prof. Wilcox	3 hrs
Conveyancing	Tiffany's Modern Real Property	Prof. Hayes	2 hrs.
Practice Court No. 1	The Preparation of Pleadings	Prof. Byers	2 hrs.

SECOND YEAR

FIRST SEMESTER

Sales	Williston's Cases on Sales	Dean Gregory 2 hrs
Trial Procedure	Practical Work	Prof. Byers 1 hr.
Bills and Notes	Huffcut's Cases on Negotiable Instruments	Prof. Wilcox 2 hrs
Equity & Equity Pleading	Hutchins & Bunker's Cases in Equity Jurisprudence, Selected Cases	Prof. Gilbert 3 hrs
Probate Law	Code and Selected Cases	Prof. Gilbert 2 hrs
Practice Court No. 2	Trial of Cases	Prof. Byers.
Suretyship (elective)	Ames' Cases	Prof. Gilbert 3 hrs

SECOND SEMESTER

Wills	Chaplin on Wills, Principles with Selected Cases	Dean Gregory 2 hrs
Corporations	Elliott on Private Corporations (3d Ed.) Lectures on Public Corporations	Prof. Wilcox 3 hrs
Partnership	Burdick's Cases on Partnership	Prof. Gilbert 2 hrs
Real Property	Tiffany on Modern Real Property	Prof. Hayes 3 hrs
Practice Court No. 3	Trial of Cases	Prof. Byers.

THIRD YEAR

FIRST SEMESTER

International Law	Scott's Cases	Dean Gregory 3 hrs
Conflict of Laws	Minor's Conflict of Law and Dyer's Cases on Private International Law	Prof. Hayes 2 hrs.
Insurance	Woodruff's Cases on Insurance	Prof. Wilcox 2 hrs
Constitutional Law	McClain's Cases on Constitutional Law	Judge Towner
Practice Court No. 4	Trial of Cases	Prof. Byers

SECOND SEMESTER

Carriers	McClain's Cases	Dean Gregory 3 hrs
Attachment and Garnishment Common Law Pleading Justice Practice	Code of Iowa Perry's Common Law Pleading	Prof. Hayes 2 hrs
Quasi Contracts	Keener on Quasi Contracts	Prof. Wilcox 2 hrs
Trusts Damages	Selected Cases on Trusts Beale's Cases on Damages	Prof. Gilbert 3 hrs

PRACTICE COURT

For the purpose of affording the student practice in the application of legal principles to statements of fact, practice courts are conducted for a portion of each year in the first and second year classes and in the first semester of the third year and each student is required to conduct or defend causes in these courts. The courts are presided over by a member of the faculty. The method and rules of

procedure follow those of the trial courts, and the student is given an opportunity to draft pleadings and argue cases under these rules. This feature of instruction is an important one in the college. Students are encouraged to form club courts, and the faculty will aid such clubs in every possible way.

COMBINED LIBERAL ARTS AND LAW COURSE

For a detailed description of the Combined Liberal Arts and Law course see pages 109–110.

INSTRUCTION IN THE COLLEGE OF LIBERAL ARTS

Law students who desire to take work in the College of Liberal Arts in addition to their regular work in the College of Law without being candidates for a degree in the former college are allowed to take such work to an extent not exceeding five hours a week as long as they maintain a good standing in their law studies and as long as the work which they undertake in the College of Liberal Arts is done to the satisfaction of the professors in charge. This privilege is also subject to the discretion of the standing joint committee of the College of Law and the College of Liberal Arts. No additional charge is made for this instruction.

EQUIPMENT

The College of Law has the exclusive occupancy of the second floor and one half of the main floor in the Old Capitol building.

LAW LIBRARY

The library is in charge of a regular librarian, a graduate in the law and liberal arts and a member of the bar, with three assistants, who render valuable aid to the students in the prosecution of their work.

See "Libraries" on pages 82–35.

THESES

Each candidate for graduation must present to the faculty, on or before the first Monday in April, a thesis upon some legal topic approved by the faculty. Such thesis must

be legibly written or printed by typewriter, on paper 8x10½ inches in size, leaving a blank margin of at least one inch at side and at top and bottom. The thesis shall not be less than 1,500 nor more than 2,500 words in length, exclusive of citations of authorities. In citing cases the names of the parties as well as the volume and page of the report must be given. Each thesis must have on the first page thereof the subject of the thesis and the name of the writer.

The character of the thesis will be taken into account in determining whether the candidate is qualified to be recommended for a degree. All theses become the property of the college.

GRADUATION

Three years' study is essential to graduation, at least the last year of which must have been spent in this college. Before being recommended for graduation the candidate must satisfy the faculty of his proficiency in all the prescribed studies of the course by passing examinations therein, or by certificates as above provided, if the candidate has pursued a portion of his studies in some other law school. Candidates must be of good moral character. Upon being recommended by the faculty, candidates may pass a final examination conducted at Iowa City by the Board of Law Examiners of the state in accordance with the statutes and rules of the Supreme Court regulating admission to the bar (see Acts Twenty-eighth General Assembly, Chapter 11, Supplement to the Code § 310), but the same is not required as a preliminary to the collegiate degree. Upon complying with the requirements above set out the candidates receive the degree of Bachelor of Laws. To students who pass the examination of the bar examiners, oaths of admission to the bar are administered in connection with their graduation, and they receive the usual diplomas and certificates of admission. Such candidates are also admitted to practice in the federal courts on graduation, the oath being administered at that time. Those who are not twenty-one years of age may pass the examination and receive their diplomas but cannot be admitted to practice until attaining that age.

Special students or those leaving the school in good standing prior to graduation are entitled to certificates

showing the number of semesters spent in attendance at this college and the grades attained in the examinations passed.

FORENSIC SOCIETIES

Two forensic societies, The Hammond Law Senate, and The Forum, composed exclusively of students of this college, hold regular weekly meetings, furnishing to their members valuable training in parliamentary law, debating and in the other exercises usually provided for by such organizations.

TUITION FEES

See pages 62-64 above.

THE COLLEGE OF MEDICINE

COLLEGE OF MEDICINE

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., PH. D., LL. D.,
President of the University.

PHILO JUDSON FARNSWORTH, B. A., M. A., M. D.,
Emeritus Professor of Materia Medica and Therapeutics.

JOHN CLINTON SHRADER, M. A., M. D., LL. D.,
Emeritus Professor of Obstetrics, Gynecology, Clinical Gynecology and Diseases of Children.

JAMES RENWICK GUTHRIE, B. S., M. A., M. D.,
Dean of the College of Medicine, and Professor of Obstetrics and Gynecology.

ELBERT WILLIAM ROCKWOOD, B. S., M. A., M. D., PH. D.,
Professor of Chemistry and Toxicology.

JAMES WILLIAM DALBEY, B. S., M. D.,
Emeritus Professor of Ophthalmology.

CHARLES SUMNER CHASE, B. A., B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

WALTER LAWRENCE BIERRING, M. D.,
Professor of Theory and Practice of Medicine and Clinical Medicine, and Secretary of the Faculty.

WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology and Assistant Professor of Gynecology.

LEE WALLACE DEAN, B. S., M. S., M. D.,
Professor of Otology and Ophthalmology.

EMIL LOUIS BOERNER, PH. G., Phar. D.,
Emeritus Professor of Pharmacy.

WILLIAM JEPSON, B. S., M. D., L. R C. P. and S
Professor of Surgery and Clinical Surgery.

JOHN THOMAS MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

HENRY ALBERT, B. S., M. S., M. D.,
Professor of Pathology and Bacteriology.

HENRY JAMES PRENTISS, M. E., M. D.,
Professor of Anatomy.

ALBERTUS JOSEPH BURGE, B. S., M. S., M. D.,
Assistant Professor in Surgery.

GERSHOM HYDE HILL, B. A., M. A., M. D.,
Lecturer on Insanity.

FRANK THOMAS BREENE, D. D. S., M. D.,
Lecturer on Dentistry.

JOHN BLAIR KESSLER, M. D.,
Lecturer and Clinical Instructor in Dermatology.

GEORGE EDWARD DECKER, B. S., M. D.,
Lecturer on Pædiatrics.

JENNINGS PRICE CRAWFORD, M. D.,
Lecturer on Surgical Technique.

MILTON REMLEY, B. A., M. A.,
Lecturer on Medical Jurisprudence.

WILBER JOHN TEETERS, B. S., M. S., PH. C.,
Director of the Pharmaceutical Laboratory.

JOHN PATRICK MULLIN, M. D.,
Demonstrator of Anatomy.

ALDEN ROBBINS HOOVER, B. S.,
Instructor in Histology and Embryology.

ZADA MARY COOPER, PH. G.,
Instructor in Pharmacy.

ANFIN EGDAHL, B. S., M. D.,
Instructor in Pathology and Bacteriology.

CHARLES LAZARUS BRYDEN, E. M., B. S. in Chemistry,
Instructor in Mining and Metallurgy.

CHARLES THAYER LINCOLN, B. S.,
Instructor in Chemistry.

CLARENCE VAN EPPS, B. S., M. D.,
Instructor in Physical Diagnosis and Clinical Medicine.

FREDERIC POMEROY LORD, B. A., M. D.,
Demonstrator of Anatomy.

FREDERICK WILLIAM BAILEY, B. S., M. S.,
Assistant Instructor in Ophthalmology.

RUDOLF ERNST KLEINSORGE,
Assistant Instructor in Physiology.

EDWIN ELMER HOBBY, B. S., M D.,
Assistant Demonstrator of Anatomy.

RALPH LEONIDAS BYRNES, B. S.,
Fellow in Pathology.

FRED ALBERT, JR., B. PH.,
Scholar in Internal Medicine, and Clinical Laboratory Assistant.

CLARENCE HENRY HANSON, B. S.,
Scholar in Physiology.

LAWRENCE ALBERT QUAIFE, B. PH.,
Scholar in Pathology and Bacteriology.

EDWARD ELLSWORTH BLYTHE, B. PH., M. D.,
Assistant in Histology.

ADELBERT W. STARBUCK, D. D. S.,
Assistant in Histology.

JOHN GEORGE MUELLER, M. D.,
Clinical Assistant to the Chair of Gynecology.

JOSEPH MAXWELL CADWALLADER,
Prosector in Anatomy.

DIEDRICH JANSSEN MEENTS, B. S.,
Assistant in Pathology and Bacteriology.

CHARLES PLUME SCHENCK, B. S.,
Laboratory Assistant in Pathology and Bacteriology.

EVAHN RUSSELL WALKER, B. S.,
Assistant in Physiology.

WILLIAM CURTIS WOLVERTON,
Tutor in Medical Latin.

ARTHUR DANIEL WOODS,
Junior Assistant Demonstrator in Anatomy.

JOSEPH ANDERSON,
Attendant in Pathology and Bacteriology.

BERTHA WILKINSON, Graduate Nurse,
Principal of Nurses' Training School.

MARION FIDLAR, Graduate Nurse,
Head Nurse.

CHARLES SCHUTZ KRAUSE, B. S., M. S., M. D.,
House Physician.

THOMAS AUGUSTINE MAHER,
Interne.

JENNIE OLIVE LOIZEAUX, B. PH.,
Cashier, University Hospital.

COLLEGE OF MEDICINE

A thorough elementary preparation is required before entering on the course of medical lectures. The University offers a scientific course preparatory to the professional, and it is expected that many will avail themselves of this opportunity. In the branches of medicine there should be a thorough training in principles before the practical portion is begun. For this purpose a careful presentation of the subjects is made by lectures, and the knowledge fixed by recitations and frequent reviews. Ample means of illustration are used, and the materials for demonstration are abundant. In the practical branches abundant clinical material is furnished to illustrate the subjects taught.

Medical, surgical, gynecological, ophthalmological, dermatological, otological, and rhino-laryngological clinics are held each week during the term. Attendance upon these is required of all students, excepting those engaged in laboratory work during clinic hours.

The course of study extends through four years of thirty-six weeks each. The session is divided into two semesters of eighteen weeks, and the semester into two quarters of nine weeks each.

BUILDINGS.

With the opening of the year 1904-1905 the College of Medicine occupied for the first time the two splendid stone buildings erected and equipped for its special use. Both buildings are situated in the new medical quadrangle, are of very attractive architecture, and strictly fireproof in construction.

The Hall of Anatomy is 60 by 60 feet, and contains a large amphitheatre, recitation room, a laboratory for prac-

tical anatomy, an anatomical museum, a smaller room for special research, and private rooms for the professor of anatomy, demonstrators, and assistants.

The hall of histology, physiology, and pathology is 55 by 150 feet in dimensions; the first floor being occupied by the department of physiology, the second by that of histology and embryology, and the third story includes the laboratories of pathology and bacteriology, the pathological museum, and the clinical laboratory.

In this building are also two large amphitheatres, two recitation rooms, laboratories for special research, faculty room, library, and ladies' and gentlemen's waiting rooms.

These buildings are completely equipped with all modern appliances, permitting the most advanced work to be carried on in the several departments represented.

THE PATHOLOGICAL MUSEUM

The museum contains a very valuable and varied collection of preparations, preserved in natural colors and adapted for illustration of the different pathological conditions. The specimens are secured principally from the university clinics and autopsies, by personal visits to the pathological institutes of the large European centers, and as contributions from professional friends. Physicians are earnestly requested to send to the curator of the museum, Professor Henry Albert, any specimens of pathological anatomy. For all such favors credit will be given by labeling the preparations with the name of the donor before placing them in the museum. Acknowledgement will also be made in the annual announcement.

The following interesting contributions have been received from professional friends during the past year:

Meckel's Diverticulum—Dr. J. C. Olmacher, Independence, Ia.

Tubal pregnancy—Drs. Matthey, Boes and Whitaker, Davenport, Ia.

Carcinoma mammæ—Dr. W. R. Whiteis, Iowa City, Ia.

Acute splenic tumor—Dr. W. R. Whiteis, Iowa City, Ia.

Kidneys — Hydronephrosis — Dr. W. R. Whiteis, Iowa City, Ia.

Fibro-myoma from region of sternum—Dr. J. R. Guthrie, Dubuque, Ia.

Tubal pregnancy—Dr. J. R. Guthrie, Dubuque, Ia.

Intracanalicular fibroma of mammary gland—Dr. J. R. Guthrie, Dubuque, Ia.

Uterus inversus—Dr. J. R. Guthrie, Dubuque, Ia., and Dr. J. H. Sams, Clarion, Ia.

Hypernepnroma of kidney—Dr. Bennett, Denver, Colo., and Dr. F. W. Powers, Waterloo, Ia.

Hydronephrosis (both kidneys)—Dr. F. W. Powers, Waterloo, Ia.

Sarcoma of ovary—Drs. Braunlich and Whitaker, Davenport, Ia.

Carcinoma—Splenic flexure of colon—Dr. W. L. Bierring, Iowa City, Ia.

Fibro-adenoma of mammary gland—Dr. I. S. Biglow, Dubuque, Ia.

Gangrene of arm—Dr. D. E. Fitzpatrick, Iowa City, Ia.

Cystoma of ovary—Dr. Wm. Jepson, Sioux City, Ia.

Hypertrophy of the thyroid gland—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma of omentum (secondary)—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma of mammary gland—Dr. Wm. Jepson, Sioux City, Ia.

Lipoma of rectum—Dr. Wm. Jepson, Sioux City, Ia.

Ankylosis of knee joint—Dr. Wm. Jepson, Sioux City, Iowa.

Chronic osteitis—Dr. Wm. Jepson, Sioux City, Ia.

Taenia saginata—Dr. Sebern, Odebolt, Ia.

Cystoma of kidney (bovine)—Dr. Edwards, D. V. S., Iowa City, Ia.

Tuberculosis of thoracic and abdominal viscera of monkey—Dr. C. M. Hobby, Iowa City, Ia.

Uterus,—witn large fibro-myoma in the lower segment which had necessitated the removal of a child by Cæsarian section—Dr. J. P. Crawford, Davenport, Ia.

Cystoma ovary—Dr. J. P. Crawford, Davenport, Ia.

Pyosalpinx (two specimens)—Dr. J. P. Crawford, Davenport, Ia.

Fibro-myoma of uterus—Dr. J. P. Crawford, Davenport, Iowa.

Chronic mastitis—Dr. Braunlich, Davenport, Ia.

Membranous cast of uterus (dysmenorrhea)—Dr. Sackett.

Osteoma from jaw of horse—Dr. Hinrichs, D. V. S., Walcott, Ia.

Taenia saginata—Dr. E. T. Kegel, Walcott, Ia.

Carcinoma of stomach—Dr. W. L. Bierring, Iowa City, Iowa.

Lipoma of rectum—Dr. W. L. Bierring, Iowa City, Ia.

Hypertrophy of heart—Dr. W. L. Bierring, Iowa City, Iowa.

Hypertrophy of prostate—Dr. W. L. Bierring, Iowa City, Ia.

Hydatiform mole—Dr. F. D. Happe, Granville, Ia.

Hypernephroma of kidney—Dr. C. E. Glynn and Dr. G. E. Decker, Davenport, Ia.

Hypertrophy of heart—Dr. J. G. Mueller, Iowa City, Ia.

Edema of lungs—Dr. J. G. Mueller, Iowa City, Ia.

Hypertrophy of prostate—Dr. J. G. Mueller, Iowa City, Iowa.

Sarcoma (multiple) of pleura, lungs and heart — Drs. Kimball and Wyant, West Liberty, Ia.

Ectopic pregnancy (canine)—Dr. Edwards, D. V. S., Iowa City, Ia.

Carcinoma of caecum—Dr. W. W. Jones, Kalona, Ia.

Fibro-adenoma of mammary gland—Dr. Kimball, West Liberty, Ia.

Spindle-celled sarcoma (Subcutaneous)—Dr. Miller, Dixon, Ill.

Diphtheritic enteritis—Dr. Wm. Jepson, Sioux City, Ia.

Appendicitis (11 specimens)—Dr. Wm. Jepson, Sioux City, Ia.

Pyosalpinx (5 specimens)—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma cervix uteri—Dr. Wm. Jepson, Sioux City, Iowa.

Carcinoma mammae—Dr. Wm. Jepson, Sioux City, Ia.

Gangrene of intestine—Dr. Wm. Jepson, Sioux City. Ia.

Cavernous angioma of arm—Dr. Wm. Jepson, Sioux City, Ia.

Osteophytes—Dr. Wm. Jepson, Sioux City, Ia.

Actinomycosis (bovine jaw)—Dr. C. B. Knowles, D. V S., and Dr. G. M. Nesbit, La Porte City, Ia.

Gangrenous cholecystitis—Dr. A. J. Burge, Iowa City. Iowa.

Papillomata of rectum—Dr. A. J. Burge, Iowa City, Ia.

Biliary calculi—Dr. A. J. Burge, Iowa City, Ia.

Fibro cystoma uterus—Drs. Burge and Bierring, Iowa City, Ia.

Carcinoma mammae—Dr. J. P. Mullin, Iowa City, Ia.

Hypertrophy of mammary glands (wt. 50 lbs. from patient weighing 105 lbs. before operation)—Dr. H. Matthey, Davenport, Ia.

Chronic stricture of intestine—Dr. A. J. Burge, Iowa City, and Dr. A. L. Braden, Wellman, Ia.

Melonotic Sarcoma from eye of horse—Dr. F. H. Edwards, D. V. S., Iowa City, Ia.

Epithelioma of eye of horse—Dr. F. H. Edwards, Iowa City, Ia.

Lipoma—Dr. F. H. Edwards, D. V. S., Iowa City, Ia.

Carcinoma mammae—Dr. Ayers, Arlington, Ia.

Tubercular epidydimitis—Dr. D. F. Fitzpatrick, Iowa City, Ia.

Fibroma (subcutaneous)—Dr. J. R. Guthrie, Dubuque, Ia.

Tuberculosis of glands of neck—Dr. J. R. Guthrie, Dubuque, Ia.

Fibro-myoma uterus—Dr. J. R. Guthrie, Dubuque, Ia.

Actinomycosis (bovine jaw)—Dr. Henry Hell, D. V. S., New Liberty, Ia.

Carcinoma penis—Dr. Kessel, Cresco, Ia.

Carcinoma cheek—Dr. Kessel, Cresco, Ia.

Suppurative pyelo-nephritis of two kidneys—Dr. L. W. Littig, Iowa City, Ia.

Carcinoma of transverse colon—Dr. J. G. Mueller, Iowa City, Ia.

Uterus—Subacute endometritis—Dr. J. C. Hancock, Dubuque, Ia.

Fibro-myxoma mammary gland—Dr. F. W. Powers, Waterloo, Ia.

Molluscum contagiosum—Dr. J. B. Kessler, Iowa City, Ia.

Foetus (two months)—Dr. J. P. Mullin, Iowa City, Ia.

Lipoma (Subcutaneous)—Dr. C. S. Shultz, Lake Park, Ia.

Foetus (full termed)—Dr. S. C. Shultz, Lake Park, Ia.

Taenia soginata—Dr. C. S. Shultz, Lake Park, Ia.

Foetuses (four specimens of different ages)—Dr. C. S. Shultz, Lake Park, Ia.

Fibro-adenoma mammae—Dr. Woodruff, West Liberty, Ia.

Fibro-adenoma mammae—Dr. E. H. King, Muscatine, Ia.

Fibromata (three specimens)—Dr. Wm. Jepson, Sioux City, Ia.

Lipomata (four specimens)—Dr. Wm. Jepson, Sioux City, Ia.

Tuberculosis of tibia—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma Lymph node—Dr. Wm. Jepson, Sioux City, Ia.

Tuberculosis of the peditoneum—Dr.Wm. Jepson, Sioux City, Ia.

Sarcoma kidney—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma mammae—Dr. Wm. Jepson, Sioux City, Ia.

Cystoma of bone—Dr. Wm. Jepson, Sioux City, Ia.

Tuberculosis of testicle—Dr. Wm. Jepson, Sioux City, Ia.

Carcinoma of liver—Dr. A. M. Clark, McGregor, Ia.

Gray Hepatization (pneumonic) of lung—Dr. A. M. Clark, McGregor, Ia.

Calculus (size of pigeon's egg) producing gangrene of intestine—Dr. A. M. Clark, McGregor, Ia.

Carcinoma of cervix—Dr. G. E. Decker, Davenport, Ia.

Gangrenous cholecystitis—Dr. G. E. Decker, Davenport, Ia.

Stomach, showing repair after operation for perforation of ulcer—Dr. G. E. Decker, Davenport, Ia.

Foetuses (3 specimens)—Dr. G. E. Decker, Davenport, Ia.

Guma of liver—Drs. Matthey and Decker, Davenport, Ia.

Placentae (anomalous)—Dr. G. E. Decker, Davenport, Ia.

Perforation of diaphragm secondary to perforating of stomach, Dr. G. E. Decker, Davenport, Ia.

Pigmented mole—Dr. W. R. Whiteis, Iowa City, Ia.

Fibro-adenoma mammary gland—Dr. W. R. Whiteis, Iowa City, Ia.

Carcinoma of mammary gland—Dr. W. R. Whiteis, Iowa City, Ia.

Pseudo-membranous cast of bronchi (not diphtheritie)—Dr. J. S. Lewis, Dubuque, Ia.

Chronic mastitis—Dr. A. P. Hanchett, Council Bluffs, Ia.

Uterine polypus—Dr. J. R. Guthrie, Dubuque, Ia.

Tuberculosis of fallopian tubes—Dr. J. R. Guthrie, Dubuque, Ia.

Carcinoma cervix uteri—Dr. J. R. Guthrie, Dubuque, Ia.

Multilolar cystoma of ovary—Dr. J. R. Guthrie, Dubuque, Ia.

Carcinoma mammae—Dr. J. R. Guthrie, Dubuque, Ia.

Fibro-myoma of uterus—Dr. J. R. Guthrie, Dubuque, Ia.

Glioma of the cerebellum—Dr. F. M. Meade, Cedar Falls, Ia.

Sarcoma of mammary gland—Dr. W. W. Hunter, Monticello, Ia.

Tuberculosis of the testicle—Dr. J. C. Hancock, Dubuque, Ia.

Dr. T. A. Shipley, D. V. S., Chief U. S. Meat Inspector, Cedar Rapids, Packing House, Cedar Rapids, Ia., has very kindly supplied the museum with the following very interesting specimens of comparative pathology—all of the specimens coming from swine:

Hypernephromata of kidney (three specimens).

Congenital cystoma oi kidney.

Fat necrosis involving principally pancreas and adjacent fatty tissue.

Actinomyosis (a number of specimens).

A large collection of lungs, livers, spleens, kidneys, glands and other organs showing extensive tuberculous involvement.

Interesting pathological material is also frequently contributed by the department of anatomy.

REQUIREMENTS FOR ADMISSION

1. Each applicant for admission must present to the secretary of the faculty a satisfactory certificate of good moral character, signed by two physicians of good standing in the state from which he comes.

2. The following classes of applicants may be admitted without examination:

a. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges, together with a special certificate that they have studied Latin at least one year.

b. Graduates of normal schools established by state authority who present diplomas or certificates of graduation, together with a special certificate that they have studied Latin at least one year.

c. Graduates of accredited or other approved secondary schools who present *thirty* (30) preparatory credits, including at least one year of Latin. *One preparatory credit is defined as the equivalent of one high school study five days a week during a semester at least eighteen weeks in length, on the basis of four studies a day.* These preparatory credits must be properly certified by the superintendent or the principal of the school from which the applicant comes, on a blank form which can be obtained by addressing the president of the University, or the university examiner. This certificate should be sent to the university examiner *as early in the summer as possible.*

3. Applicants who present *twenty-eight* (28) preparatory credits properly certified (as indicated under 2 c) may be admitted without examination, *on condition that they complete their preparation within one year from the*

date of their admission. No applicant whose deficiencies exceed *two* (2) preparatory credits will be admitted as a candidate for graduation.

4. In September, 1905, applicants who do not present credentials as described above will be admitted without conditions *only upon passing examinations* in the following preparatory subjects:

a.	Latin (one year)	2 credits
b.	English and literature	4 credits
c.	History (one year)	2 credits
d.	Civil government	1 credit
e.	Arithmetic	1 credit
f.	Algebra, through quadratics	3 credits
g.	Plane geometry	2 credits
h.	Physics (one year)	2 credits
i.	Botany, or some other science	1 credit

5. The applicant who passes examinations in all of the subjects enumerated under 4, except such as stand for a total of *two* (2) preparatory credits, may be admitted *on the conditions stated in paragraph* 3.

6. Applicants who present proper *certificates* covering all or any part of the preparatory studies designated under 4 for examination, may be admitted upon passing examinations in enough *other* preparatory studies to bring the number of their preparatory credits up to at least *twenty-eight* (28), *on the condition stated in paragraph* 3.

7. All applicants who are admitted without Latin will be required to take the one-year course in medical Latin specially provided by the University, the fee being $5.00 for the course. This course is not a part of the regular course in medicine, but is offered as a convenience for such applicants for admission as have not studied Latin. The class in this course will be organized on Monday, October 2, 1905. Students who take this course are required to pay the fee at the time when they pay the first installment of their regular tuition fee.

8. Students who enter with conditions in *other* preparatory studies than Latin must pass the regular entrance examinations in these studies either in February or in September, 1906.

9. Students entering from other colleges of medicine with advanced standing must present credentials for preparatory work or be examined as stated above.

10. It is urged that any one expecting to enter the college of medicine next September send all certificates of preparatory work to the university examiner *as early in the summer as possible, and certainly before September* 1. If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean, or to the secretary of the faculty, for signature.

ENTRANCE EXAMINATIONS.

Any person expecting to enter the College of Medicine next September, should be careful to learn before the opening of the University exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the University, the secretary of the faculty of the College of Medicine, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the University. For *a series* of examinations covering two or more subjects a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

MONDAY, SEPTEMBER 18, TO WEDNESDAY, SEPTEMBER 20, 1905.

Arithmetic,	1 credit,	Monday,	1:30 P. M.
Latin,	2 credits,	Monday,	3:30 P. M.
English and English grammar,	2 credits,	Tuesday,	4:30 P. M.
Literature,	2 credits,	Tuesday,	8:00 A. M.
*General history,	2 credits,	Tuesday,	9:30 A. M.
*English history,	1 credit,	Tuesday,	11:00 A. M.
*United States history,	1 credit,	Tuesday,	1:30 P. M.
Civil government,	1 credit,	Tuesday,	2:30 P. M.
Algebra,	3 credits,	Wednesday,	8:00 A. M.
Plane geometry,	2 credits,	Wednesday,	9:30 A. M.
Physics,	2 credits,	Wednesday,	1:30 P. M.
Botany,	1 credit,	Wednesday,	3:00 P. M.

SECOND SEMESTER.

THURSDAY, FEBRUARY 8, TO SATURDAY, FEBRUARY 10, 1906.

The examinations will be held at the same hours as in the programme above, reading Thursday, Friday and Saturday for Monday, Tuesday and Wednesday, respectively.

All students having deficiencies in their medical work will appear for examination according to the following schedule:

WEDNESDAY, SEPTEMBER 20.

Histology,	8:00 A. M.
Physiology,	10:00 A. M.
Pathology,	10:00 A. M.
Anatomy,	11:00 A. M.
Materia medica,	3:00 P. M.
Chemistry,	4:00 P. M.

*The applicant may elect either *general history*, 2 credits, or *English history* and *United States history*, one credit each.

COMBINED COURSES

Arrangements have been made with the faculty of the College of Liberal Arts whereby a student may receive credit in one college for work done in another, thereby obtaining the two degrees in six instead of eight years as would be required if each degree were taken independently. These combined courses are especially recommended to all students who intend to enter the profession of medicine.

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSE LEADING TO THE DEGREES B. S. AND M. D.

1.	Some *one* foreign language (Latin* preferred, but German or French accepted),	4 credits
2.	English and literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics or science),	13 credits
	Total,	30 credits

For a detailed statement of the requirements for admission, see pages 78-82.

COMBINED COURSE OF SIX YEARS LEADING TO THE DEGREE OF B. S. IN THE COLLEGE OF LIBERAL ARTS, AND TO THE DEGREE OF M. D. IN THE COLLEGE OF MEDICINE

(The requirements for admission to this course pertain to the College of Liberal Arts, *not* to the College of Medicine.)

FIRST YEAR

German *or* French	**5 hours**
English	**2 hours**

*Applicants who do not present at least *one year* of Latin will be required to take the one-year course in Medical Latin at the University.

Mathematics	4 hours
Animal biology	4 hours
	15 hours

SECOND YEAR

English*	3 hours
Physics	4 hours
Animal biology	4 hours
Botany *or* Zoology	4 hours
	15 hours

THIRD YEAR

German *or* French*	3 hours
Chemistry	6 hours
Human anatomy in the College of Medicine	4 hours
Human physiology in the College of Medicine	3 hours
	16 hours

FOURTH, FIFTH, AND SIXTH YEARS

Medical work exclusively.

NOTE 1. The degree of B. S. to be conferred at the end of the fourth year; the degree of M. D. at the end of the sixth year, if the work has been completed.

NOTE 2. This course must be pursued as here outlined, no substitutions or changes in the order of studies being permitted, except that the starred (*) English and foreign language may be transposed.

COMBINED COURSE LEADING TO THE DEGREES OF M. D. AND D. D. S.

By arrangement with the dental faculty students may obtain the degrees of Doctor of Medicine and Doctor of Dental Surgery by taking four years in the College of Medicine, and after that two years in the College of Dentistry. The work is not so arranged that the dental branches can be taken first. The requirements for admission are the same as those of the College of Medicine.

ADVANCED STANDING

In all cases those who enter from other schools with advanced standing must comply with the requirements for admission.

Students from other accredited medical colleges who have attended one course of lectures will be admitted to the sophomore class upon passing an examination in the branches taught during the first year.

Those who have attended two courses will be admitted to the junior class upon passing an examination in the branches taught during the first and second years.

Those who have attended three courses will be admitted to the senior class upon passing an examination in the branches taught during the first, second, and third years. At least 34 weeks of study must have been included in each annual course.

Graduates from colleges in good standing, who, during their college course, have devoted regular time to the study of the following branches: biology, botany, chemistry, physics, histology, physiology, and human anatomy, may be admitted to the second year of the medical course.

The number of hours following has been adopted as covering the above requirements:

	DIDACTIC	LABORATORY
General biology, with physiology, especially the physiology of circulation, respiration, nerve and muscle, excretion,	180	
Botany, collegiate grade,	72	
Mammalian anatomy with comparative anatomy (human),	60	60
Zoology, not including anatomy,	120	120
Chemistry, non-metallic, metallic, and organic, including stochiometry,	100	200
Physics,	180	
Histology,		
of cells and tissue,	32	48
Digestive tract, accessory glands, etc.,	22	33
Respiratory tract, skin, and nervous system,	36	72
also genito-urinary histology,	—	—
Embryology,	60	(including laboratory).

An opportunity will be given at this college for making up the human dissection of the freshman year.

Graduates from literary and scientific colleges having pre-medical courses which have been approved by this faculty will be admitted to the sophomore class upon the presentation of certificates of graduation from such courses. All others should present specific statements of the work completed before graduation with the above as the minimum amount.

Colleges now having such courses or announcing the intention of establishing them are:

Augustana College, Ill.;	Iowa College;
Coe College;	Simpson College;
Des Moines College;	Western College.

Students entering under these conditions at the end of their first session must pass examinations in all branches of the freshman year not previously pursued by them.

Steps are being taken looking to the early requirement of four years of residence in the College of Medicine.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF ANATOMY

PROFESSOR PRENTISS; DR. MULLIN, DR. HOBBY, DR. LORD, MR. FOX, MR. WOODS, MR. CADWALLADER, MR. GLASE

FRESHMAN WORK—The class is divided into three sections to accommodate it to the natural divisions of the body, *i. e.*, head and neck, arm and thorax, leg and abdomen. Taking one section through the year explains the work of the other sections.

Section I on entrance is assigned to the study of the bones of the skull and cervical vertebrae. It receives four demonstrations per week for five weeks, when an examination is held. The professor of anatomy quizzes this section one hour a week on the subject matter covered for the week period, using material on which the student demonstrates his knowledge.

This section is assigned a head and neck in the dissecting room on completing the bone work and four weeks are spent in dissecting the main structures of this part. An examination is held at the end of that period on the practical work. The professor of anatomy quizzes this section one hour a week from a dissected specimen obliging each student to demonstrate his knowledge from the cadaver. Section I again meets a demonstrator for five weeks in the consideration of the osteology and joints of the arm and thorax. The section then spends four weeks dissecting the soft parts of this third of the body.

In the last third of the year section I covers the bones and joints and then the dissection of the lower extremity. Quizzes occur in the same manner as mentioned in the consideration of the head and neck.

LECTURES—During the first semester the professor considers the visceral anatomy in a general way and from the developmental point of view, viz:

I. Digestive tracts.
II. Diverticula of digestive tracts.
  a. Liver. Salivary glands. Pancreas.
  b. Respiratory tracts.
    Larynx.
    Trachea.
    Bronchi.
    Lungs.
III. Ductless glands.
IV. Genito-urinary tracts.
V. Angiology.
    Heart, main vessels, arteries, veins.

SECOND SEMESTER—The professor of anatomy considers the brain and spinal cord in a general way. He then lectures in detail on the nerve plexuses and major joints. The year's course of lectures is terminated with a general consideration of the skeleton as a whole—bone composition, etc., etc. The year's course is followed by two examinations held by the professor of anatomy. One is a practical examination on the bones of the entire body, joints, and the musculature, arterial, and nerve systems. The second is a written examination to test the theoretical knowledge of the student.

Section II begins with the bones of the arm and thorax, next leg and abdomen, and lastly, head and neck.

Section III begins with the bones of the leg and abdomen, then takes up head and neck, and lastly, arm and thorax.

THE SOPHOMORE WORK—The sophomore class is divided into three sections to accommodate the natural divisions of the body. Before dissecting, the professor of anatomy meets each section three times a week for a period of four weeks and demonstrates the viscera of the part assigned, viz., head and neck men—the brain; arm and thorax men—the thor-

acic viscera; leg and abdomen men—abdominal viscera; dilating on the perineum, inguinal and femoral canal and genitalia, both male and female. A practical examination is held at the end of the period and the three sections pass to the dissecting room where a period of five weeks is spent dissecting in great detail the part assigned including the viscera upon which they have just received demonstrations. As with the freshman class there is a period of demonstrations followed by disections, the difference being, visceral demonstrations instead of bone demonstrations.

LECTURES—The professor of anatomy gives two lectures a week to the sophomore class during the year. The course begins with the consideration of thoracic viscera, including the pure anatomy, regional anatomy and touching on its application to practice and surgery. The abdominal viscera are taken up next, beginning with the digestive tract and finishing with the genito-urinary system. A series of lectures is devoted to the peritoneum considering it from the developmental and comparative point of view, illustrating by models, lower forms of animal life and finally with the human.

Next the spinal cord and brain including the membranes, are considered. The three sections at this period have considered in the demonstration periods the gross anatomy of the brain and can intelligently follow the lectures.

Cranial nerves are now taken up from their origin to their distribution. The sympathetic system follows naturally. Finally the vascula system is lectured upon, stress being laid upon relations, surgical importance, surface markings, etc.

The venous and lymphatic systems terminate the course. The professor of anatomy demonstrates to the class in two sections every week on the lectures and follows this by two quizzes each week on the lectures and demonstrations. Practical and written examinations follow for advanced standing.

THIRD YEAR CLASS—At the opening of the second semester a course in applied anatomy begins. First the scalp is considered and regional anatomy referring to the brain nat-

urally follows. The face and neck come next; then throat and abdomen. Surgical spaces are considered separately, followed by surgical anatomy of the arteries. The major joints follow, stress being laid upon their relations to the coverings. Great attention is paid to inguinal, femoral and perineal anatomy.

NOTE. An anatomical museum is being developed wherein the students may refer to all manner of prepared specimens. It is more in the nature of an anatomical study room. Specially prepared boxes are provided to hold the head, arm and thorax bones, and leg and abdomen bones. These boxes are issued to the students according to the part which they are studying. The dissection room is provided with a skeleton case containing a mounted skeleton for reference during the dissecting periods. There is also a joint box in the dissecting room where are placed carefully prepared specimens of all the major joints. These specimens are kept pliable by a special fluid which works very successfully.

The material for dissecting, as a result of much experimentation, is kept in a sweet, pliable condition, without the use of cold storage, which is destructive of material, or by fumes. It is always ready for use and at a moment's notice.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR M'CLINTOCK; MR. KLEINSORGE, MR. WALKER, MR. HANSON

The department of physiology now occupies a suite of rooms upon the ground floor of the new medical laboratory building. The space is divided into two large laboratories, one for second year work and one for the first year, a laboratory for special research and advanced work, a dark room, a reading room and offices. The laboratories have been equipped with new furnishings throughout especially adapted to the work of the department. New apparatus of sufficient amount has been purchased to provide each set of students with all that is required for their work and there are lockers in each table where the student can keep his apparatus, books, etc., without danger of loss.

The second year laboratory is designed for the work upon the muscles and nerves and upon the special senses.

It is, therefore, provided with revolving drums, muscle levers, inductoriums, chronographs, electric currents, ophthalmoscopes, retinoscopes, perimeters, eye models, test lenses and a large amount of special apparatus for the testing of the special senses. The first year laboratory is usd for the vivisection experiments upon circulation, respiration and digestion. It is equipped with operating tables, surgical instruments, sterilizers, beside the more technical apparatus necessary to carry on this kind of work in the most approved scientific manner. All the rooms are well lighted and have gas, electric light, hot and cold water connections.

The course in physiology is graded in the first and second years of the medical course. It consists of lectures, recitations and practical work in the laboratory. It is the purpose of the lectures and recitations to bring out the more important physiological facts and to eliminate a mass of material of interest to the physiologist, but of small importance to the physician. With the work in the laboratory the student is not only taught many physiological truths, but the work is so arranged that the student finds out these truths for himself. In this course, however, independent work, close observation and careful and exact technique are considered as important for the medical student to learn as are the physiological facts thus observed.

In the first year the lectures include the subjects of biology, the body composition, the fundamental physiological processes, metabolism, the nutritive media, the circulation, respiration, secretion and excretions, digestion and absorption. The lectures are illustrated by means of charts, lantern slides and experiments upon living animals. Towards the close of the year the students are given an opportunity to perform the simpler experiments upon the blood and circulation and upon respiration in the laboratory.

In the second year the work includes lectures upon nerve and muscle physiology, the electrical phenomena of the body, the physiology of the central nervous system, the physiology of the special senses, of speech, and of reproduction. In addition to the lectures and recitations, the student does practical experimental work in the laboratory.

For this the class is divided into sections, and each section works under the immediate supervision of the professor or instructor in physiology. In this course the student is made familiar with the various apparatus and physiological instruments and their uses and is also taught the methods of experimentation. He is supplied with living animals, and upon these studies the physiological activity of the various parts and the organs under normal and abnormal conditions, being required to keep an accurate record of his experiments. In this course the student also studies models of the eye and ear, and performs a number of experiments with the Kuehne artificial eye, observing how it can be converted into a myopic, hyperopic, emmetropic, or astigmatic eye. Each student is supplied with an ophthalmoscope and retinoscope and he learns to use these instruments upon the human eye as well as upon artificial eyes. Each student is required to complete at least fifty different physiological experiments.

In the third year a course of ten lectures is given upon pathological physiology. In this course the physiological processes as they are modified by various pathological conditions are especially considered. An optional laboratory course is given to those desiring more extended work in this line.

1. ELEMENTARY PHYSIOLOGY—Lectures, recitations, and demonstrations dealing with the physiology of the animal and plant cell, the fundamental properties of protoplasm, and the proximate principles of the animal body. Three hours a week, first quarter, first semester, freshman year. Professor MCCLINTOCK.

2. PHYSIOLOGY OF DIGESTION—Lectures, recitations, and demonstrations. This course includes a study of the various digestive juices and their activities; the nervous mechanism governing the digestive organs, the absorption of food-stuffs, and body metabolism. Three hours a week, second quarter, first semester, freshman year. Professor MCCLINTOCK.

3. PHYSIOLOGY OF SECRETION—Lectures, recitations, and demonstrations dealing with the physiology of secretion. Both the external and the internal secretions are studied.

The changes in the secretory cells and the nervous mechanism governing the secretions are investigated. The course includes a discussion of the physiology of the kidney, skin, ductless glands, and other glands in the body. Three hours a week, first quarter, second semester, freshman year. Professor McCLINTOCK.

4. SYSTEMIC PHYSIOLOGY—Lectures, recitations, and demonstrations. This course includes the physiology of blood, circulation, respiration, and the lymphatic system. Three hours a week, second quarter, second semester, freshman year. Professor McCLINTOCK.

5. PHYSIOLOGY OF MUSCLE AND NERVE—Lectures, recitations, and demonstrations. This course includes a study of the activity of muscle and nerve under normal and abnormal conditions and the electrical disturbances in muscle and nerve. Three hours a week, first quarter, first semester, sophomore year. Professor McCLINTOCK.

6. PHYSIOLOGY OF THE NERVOUS SYSTEM—Lectures, recitations, and demonstrations upon the physiology of the brain, spinal cord, the sympathetic and cerebrospinal nerves. Three hours a week, first term, second semester, sophomore year. Professor McCLINTOCK.

7. PHYSIOLOGY OF THE SENSES—Vision, hearing, taste, smell, cutaneous and muscular sensations. Lectures, recitations, and demonstrations. Three hours a week, fourth quarter of the sophomore year. Professor McCLINTOCK.

8. PHYSIOLOGY OF REPRODUCTION—Lectures and recitations, second quarter, second semester, sophomore year. Professor McCLINTOCK.

9. EXPERIMENTAL PHYSIOLOGY—Laboratory work and demonstrations upon the first year's work in physiology. This course is given to the first-year students and in it each member of the class has opportunity to examine a specimen of blood, count the corpuscles, determine the per cent. of haemoglobin and take its specific gravity. The making of pulse tracings, cardiograms, pneumograms and many other experiments upon the heart, circulation and respiration are carried on in this course. Second semester, freshmen year. Professor McCLINTOCK, Mr. KLEINSORGE, Mr. WALKER, Mr. HANSON.

10. EXPERIMENTAL PHYSIOLOGY—Laboratory work and demonstrations. This course includes a study of physiological apparatus and their uses. Experiments are performed by the student to demonstrate the functions and manner of action under different conditions of the muscular and nervous systems. Extensive physiological examinations are also made of the special senses, the detection of optical defects and their correction. For this work the class is divided into sections, each section spending at least fifty-four hours in the laboratory, sometime during the sophomore year. Professor MCCLINTOCK, Mr. KLEINSORGE, Mr. WALKER.

11. PATHOLOGICAL PHYSIOLOGY — A course of ten lectures and recitations. The subjects especially covered in these lectures are the digestive system, the blood, circulation, excretions, and nervous system, treating of the normal physiology of these parts as we find it to be under various diseased conditions. Lecture once a week, first quarter, second semester of the junior year. Optional laboratory work, time to be arranged. Professor MCCLINTOCK, Mr. KLEINSORGE.

12. ADVANCED PRACTICAL PHYSIOLOGY—Elective. This course is open to students who have completed courses 1 to 11, inclusive. The student may select any subject in physiology and do advanced work. He will be supplied with animals and apparatus necessary for this work. Nine hours a week during the senior year. Professor MCCLINTOCK, Mr. KLEINSORGE.

DEPARTMENT OF CHEMISTRY AND TOXICOLOGY

PROFESSOR ROCKWOOD; MR. LINCOLN, MR. BRYDEN, MR. FARR

The work of the department is conducted in the chemical building of the University. The outfit is ample for demonstrating the general principles of chemistry, as well as its application to medicine. Each student is supplied free of charge with a set of the necessary apparatus, being obliged to pay only for that which is injured or destroyed.

The course in chemistry is designed, first, to give the student a thorough knowledge in fundamental principles,

then to assist him in applying these to the problems which he will meet in the practice of his profession. The lectures are fully illustrated by experiments.

57. CHEMISTRY OF THE NON-METALLIC ELEMENTS —Lectures and recitations. Freshman year, first semester. Three hours each week. Mr. LINCOLN.

58a. CHEMISTRY OF THE METALS AND THEIR COMPOUNDS —Lectures and recitations. Freshman year, second semester, first quarter. Three hours each week. Mr. LINCOLN.

58b. ORGANIC CHEMISTRY — Lectures and recitations. Freshman year, second semester, second quarter. Three hours each week. Mr. LINCOLN.

59 (60a). QUALITATIVE ANALYSIS—A laboratory course. It includes, first, the methods of testing for the metallic poisons; then the common medicinal compounds are studied. The student learns the methods of chemical manipulation and the use of apparatus, and also becomes acquainted with the action of reagents and of the common chemicals upon each other. The course includes the chemical examination of water from a sanitary standpoint, each student making a number of analyses of various wholesome and polluted waters. Freshman year, first semester, and first quarter of second semester. Six hours each week. Mr. LINCOLN and Mr. BRYDEN.

60b. VOLUMETRIC ANALYSIS—A laboratory course. Volumetric methods of quantitative analysis are especially adapted to the needs of the physician because of the rapidity and ease with which they can be executed. The principal ones are taught and the student is given enough practice to familiarize him with them. Freshman year, second semester, second quarter. Six hours each week. Mr. LINCOLN and Mr. BRYDEN.

27 (28). PHYSIOLOGICAL CHEMISTRY—Lectures and recitations. The lectures are in explanation and amplification of the laboratory work. They include the study of the proximate principles of the body and their chemical changes, also foods and digestion, blood, milk, urine, fermentation, and bacterial products. Sophomore year. Two hours each week. Professor ROCKWOOD.

29. GENERAL PHYSIOLOGICAL CHEMISTRY—A laboratory

course. The proximate principles of the body and food materials are prepared by the student and their properties and chemical changes are studied. Experiments in artificial digestion are made, their products being isolated and examined. The constituents of the blood are tested chemically and spectroscopically. Sophomore year, first semester. Two hours each week. Professor ROCKWOOD, Mr. LINCOLN.

30. APPLIED PHYSIOLOGICAL CHEMISTRY — A laboratory course. The modern methods of physiological chemistry are here used in solving problems which arise in the practice of medicine. These include such as the analysis of the gastric juice, quantitative tests being made where they are valuable for diagnostic purposes; the qualitative tests for the abnormal constituents of the urine, with the quantitative determination of such as are of importance; the identification of urinary sediments, of calculi, and of blood stains. Each student makes a complete examination of a large number of each of these, handing in written reports for correction and suggestions. Sophomore year, second semester. Two hours each week. Professor ROCKWOOD, Mr. LINCOLN.

31 (32) ADVANCED PHYSIOLOGICAL CHEMISTRY—This is planned for those who wish to continue the work of the preceding courses. The methods used in research for the isolation and quantitative determination of some of the body constituents are studied in the laboratory. It may be taken as a minor for an advanced degree. Five hours each week. Prerequisites, courses 1, or 57 (58), 27 (28), and 29 (30). Professor ROCKWOOD.

39. TOXICOLOGY—Lectures and recitations. The physiological and chemical action of the principal poisons is considered as well as their antidotes. The methods of identifying poisons in food, excreta, etc., are explained and illustrated by experiments. Junior and senior years, first semester, and first quarter of second semester. One hour each week. Professor ROCKWOOD.

43. TOXICOLOGY—An elective laboratory course in which are demonstrated the methods used for the identification and quantitative determination of poisons, as well as the methods of separating them from foods, clothing, wall-paper and various complex mixtures. The post mortem lesions

are studied and the means of localization and recovery from the tissues of the body. Prerequisites, 1 (2), and 5 (6). First semester. Six hours a week. Professor ROCKWOOD.

44. CHEMISTRY AS APPLIED TO SANITARY SCIENCE — An elective laboratory course. Included in this are the methods suitable for the physican in testing water, air, milk, and other food materials as to their purity, together with the means of detecting preservatives, adulterants, and substitutes. The student works independently as the course is outlined by the head of the department. The number may be limited according to the accommodations of the laboratory. Junior year, second semester. Professor ROCKWOOD.

53 (54) GRADUATE WORK—Suitable courses will be outlined to meet the requirements of the individual graduate student desiring to carry on advanced work either as a major or as a minor in a course leading to an advanced degree in the Graduate College of the University. The applicant for such a course must satisfy the head of the department as to his knowledge of general chemistry and as to his fitness for undertaking original investigations. The work will be under direct supervision of the professor in charge of the department. Throughout the year. Time to be arranged. Professor ROCKWOOD.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS; MR. HOOVER, DR. BLYTHE, DR. STARBUCK

The department of histology and embryology occupies the entire second floor of the newly completed medical laboratory building. This building has been designed with special reference to the requirements of microscopical work. North and east exposures, ample room, and unobstructed light give ideal conditions for this line of work. The laboratories of this department consist of two large rooms for general class work, a special laboratory equipped for advanced research work, a preparation room containing a complete stock of reagents, human tissues and those of lower animals, appliances such as microtomes for brain sections, paraffin and celloidin work, paraffin bath, electric motors with apparatus for preparing sections of teeth, bone, etc.

In connection with the laboratories are rooms devoted to a library, containing the latest books and journals pertaining to histology and embryology, a museum containing alcoholic specimens, and several thousand microscopic slides of stained and injected adult and embryonic tissues.

Classes are divided into small sections and a sufficient number of demonstrators are employed so that each student may have individual attention.

The illustrative material consists of charts, diagrams, models and blackboard drawings. Each student prepares for himself a complete series of 150 permanent specimens, illustrating the microscopic anatomy of the human body.

The most important methods in the technique of fixing, hardening, and staining tissues will be taught, including the celloidin, and paraffin methods, serial sectioning, injection methods, etc.

Each student is provided with a compound microscope and individual locker.

The lecture room is directly off the laboratories. It has a seating capacity of 250 and is provided with the most modern type of stereopticon, charts, and other appliances necessary for illustrated lectures.

The work in this department is divided into histology for the first semester and histology of the nervous system and embryology for the second semester. Students may enter at the beginning of the first or second semesters.

1. THE HISTOLOGY OF CELLS AND TISSUES — The first work of the course is on the structure and manipulation of the microscope. It is followed by a consideration of the classification and action of stains. Cell structure, as seen in the simpler forms of plant and animal cells, is first studied, then the more highly differentiated animal cells. After this the histology of the animal tissues is taken up. Freshman year, first semester, first quarter.

Three lectures and one recitation each week. Professor WHITEIS.

Laboratory work, six hours each week. Professor WHITEIS, Mr. HOOVER, Dr. BLYTHE.

2. THE HISTOLOGY OF THE DIGESTIVE TRACT, GENITO-URINARY TRACT, RESPIRATORY TRACT, SKIN AND ITS APPEN-

DAGES—Freshman year, first semester, second quarter.

Three lectures and one recitation each week. Professor WHITEIS.

Laboratory work, six hours each week. Professor WHITEIS, Mr. HOOVER, Dr. BLYTHE.

3. THE HISTOLOGY OF THE NERVOUS SYSTEM—Freshman year, second semester, first quarter.

One lecture and one recitation each week. Mr. HOOVER.

Laboratory work, six hours each week. Professor WHITEIS, MR. HOOVER, DR. BLYTHE.

4. EMBRYOLOGY AND BIOLOGY—The embryos of the chick, the frog, and some mammal will be studied, in addition to the lower forms of animal life. Freshman year, second semester, second term.

One lecture and one recitation each week. Mr. HOOVER.

Laboratory work, four hours each week. Professor WHITEIS, Mr. HOOVER, Dr. BLYTHE.

5. LABORATORY TECHNIQUE—An optional course. Freshman year, second semester, second quarter. Two hours each week. Professor WHITEIS, Mr. HOOVER, Dr. BLYTHE.

6. ADVANCED WORK FOR A DEGREE IN THE GRADUATE COLLEGE—As a prerequisite to advanced work in this department the student will be required to possess a good working knowledge of both the methods and the subject matter of general histology and embryology. He will be assigned a private laboratory and offered such opportunities as the general laboratory and library afford. The department will supply the necessary materials in the way of tissues and reagents.

Two courses are offered as follows:

I. THE EYE—The histology of its tissues, considered in relation to both their phylogentic and their ontogentic development. The structure and development of the retina will be specially studied.

II. THE EAR—The investigation will proceed along the same lines as in the preceding course.

Throughout the year, hours to be arranged. Professor WHITEIS.

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

PROFESSOR CHASE; PROFESSOR TEETERS, MR. WOLVERTON, MR. HALL AND MISS COOPER

1. ORGANIC MATERIA MEDICA—The course is introduced by definitions, and a discussion of routes and modes of administering drugs, dosage, classification of official preparations, and prescription-writing, including the subject of incompatibilities. Following such general topics inorganic drugs are taken up in a natural order of grouping. Sophomore year, first semester. Two lectures and one recitation each week. Professor CHASE.

2. ORGANIC AND INORGANIC MATERIA MEDICA—Drugs of both vegetable and animal as well as inorganic origin are considered. As before they will be grouped with reference to some dominant or characteristic action. Thus are grouped drugs affecting the nervous system, the heart, the circulatory system, the respiration, etc. Toward the close of the year a general review is given. Sophomore year, second semester. Two lectures and one recitation each week. Professor CHASE.

3. THERAPEUTICS—General therapeutics is presented at the outset by means of such subjects as pneumotherapy, hydrotherapy, balneotherapy, climato-therapy, psychotherapy, hypnotism, suggestion, heat and cold, light and darkness, and other general therapeutic measures more or less mechanical. Junior year, first semester, first quarter. Two lectures and one recitation each week. Professor CHASE.

4. THERAPEUTICS—Following the preceding course drugs of a general nature or such as affect the tissues of the body generally, and drugs which affect particular organized systems, are presented separately: for example, those used to stimulate or depress the heart, to modify nutrition, or those which act upon the nervous system. Junior year, first semester, second quarter. Two lectures and one recitation each week. Professor CHASE.

5. THERAPEUTICS—The preceding course is followed by a discussion of local remedies, that is, remedies acting upon mucous membranes to stimulate their functional activity.

Prescription writing will be given careful attention throughout the year, the aim being to illustrate each drug with one or more practical prescriptions and to discuss briefly its mode of administration. Junior year, second semester. Two lectures and one recitation each week. Professor CHASE.

6. EXPERIMENTAL PHARMACOLOGY—During both semesters of the junior year an elaborate, practical laboratory course is given, illustrative of the action of the more important drugs upon inferior animals. Professor CHASE and Mr. HALL.

7. THEORY AND PRACTICE OF PHARMACY—A lecture course. The history of the pharmacopœia will be discussed, also metrology, with special attention to the metric system. The processes used in pharmacy which are of especial interest to the medical student will be considered, such as solution, clarification, percolation, the determination of specific gravity, the preparation of emulsions, suppositories, cachets, tablet-triturates, etc. The prescription from the pharmaceutical standpoint will receive careful attention. Freshman year, second semester. One hour each week. Professor TEETERS.

8. PHARMACEUTICAL PREPARATIONS — A laboratory course. The satisfactory production of twenty-five preparations embracing the various classes of the U. S. Pharmacopœia, National Formulary, etc., also work in filling prescriptions illustrative of chemical and pharmaceutical incompatibility is required. Freshman year, second term, second semester, and junior year, second quarter, second semester, seventy hours. Professor TEETERS, Miss COOPER.

9. MEDICAL LATIN—Those who have had but little opportunity to study Latin before entering upon their medical work will be afforded an opportunity in this course, for special drill, with a view to acquiring such knowledge as must be possessed by every accurate prescription-writer. It includes such drill as is outlined in any good treatise on prescription-writing. In the first semester the grammar is studied with a view to present those principles of Latin etymology and construction which are essential to an intelligent use of the terminology of pharmacy and medicine. In

the second semester the study of the grammar is continued, special attention being given to pharmacopœal nouns and expressions. The prescription is taken up, its definition, its synthesis, comprising form, grammatical construction, language, etc., followed by its analysis. A review of the entire work completes the course. Throughout the year. Two hours each week.

10. ELECTROTHERAPEUTICS AND MASSAGE—The construction and manipulation of the various forms of apparatus are first considered and the practical workings of batteries and their accessories are demonstrated. The fundamental laws of electricity are given briefly, those of use to the student and practitioner being emphasized. The consideration of the currents in common use follows, with their differences and measurements. This includes galvanic, induced, alternating, and interrupted currents, also the choice of currents for different purposes, as the cautery, electrolysis, cataphoresis, etc. The physiological effect of the current, its therapeutical uses, and the electric current in diagnosis are considered. The use of the static machine and X-ray apparatus is taught by actual work and demonstration. The course includes also the principles of massage. Senior year, second semester. Twelve hours.

11. PRACTICAL THERAPEUTICS—An elective course. This course consists in the preparation of theses by the students, upon stated cases involving original research and reference to the latest and most approved medical periodicals. Such theses are carefully read and criticised by the head of the department, and are filed in the University library. Opportunity will also be afforded those who wish to do research work in the laboratory of pharmacology. A small expense will be necessary should any wish to avail themselves of such a course, the items of which may be learned by inquiry of the head of the department or of one of the demonstrators. This course is open to any member of the junior or senior classes.

12. HYGIENE—A course of lectures upon this subject will be delivered during the senior year, in which will be discussed all matters pertaining to both public and private hygiene. The subject will be illustrated by means of maps

and models showing different styles of machinery for filtration of potable waters—discussing also questions pertaining to their source, etc. Also the results of analyses of potable waters from private wells will be presented with their conclusions, etc. The results of analyses of foodstuffs will be given and all other matters affecting the public health. Senior and junior classes. Second semester.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY.

PROFESSOR ALBERT; DR. EGDAHL, MR. BYRNES, MR. QUAIFE, DR. DECKER, MR. CHRISTIANSON, MR. RICHARDS, MR. SCHENCK, MR. MEENTS.

The department of pathology and bacteriology occupies the rooms on the third floor of the new laboratory building of the college of medicine. This floor has two large laboratories for the general work of the department, one large room for the special bacteriological work connected with the Iowa State Board of Health, one photographic room, one large room for the pathological museum with twelve places for students doing special research work or carrying on original investigations, and five small rooms for office, preparation and other special purposes.

All of the laboratories are well-lighted, completely furnished and thoroughly equipped with new microscopes of the most modern type, and all apparatus necessary for carrying on any kind of investigation in the field of pathology or bacteriology. By reason of special association with the pathological institutes of Vienna, Leipzig, and Munich, the department has come into possession of a most complete and varied collection of diseased tissues and organs for the study of general and special pathological histology. Each student is provided with a special composite topped table, a microscope, a locker, and the necessary staining reagents.

The course in pathology and bacteriology extends through the sophomore, junior and senior years, and is presented by means of lectures, recitations, demonstrations and laboratory work. The lectures are illustrated by means of drawings, charts, and the Zeiss epidiascope, an instru-

ment for the projection of microscopic slides, lantern slides and opaque objects, such as museum preparations, charts, atlases, illustrations from text books, etc. These objects are projected on a screen many times enlarged. Preparations from the medical museum and fresh specimens derived from post-mortem examinations and the University clinics are also used for illustration. The laboratory work comprises a thorough drill in pathological and bacteriological technique, in the preparation and study of microscopical specimens of the various diseased conditions that occur in the human tissues and of all of the more important micro-organisms.

1. GENERAL PATHOLOGY AND PATHOLOGICAL HISTOLOGY—A didactic, recitation, demonstration and laboratory course including the causation of disease processes, the disturbances in circulation and nutrition, inflammation and the various retrogressive and progressive disturbances of metabolism. The laboratory work will require two hours' work each week from January to June. It comprises the preparation and study of slides illustrating the general pathologic changes that occur in the human tissues. Special attention is given to the drawing of the microscopic specimens. Sophomore year, four hours each week for the first semester, and the first quarter of the second semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Dr. DECKER, Mr. RICHARDS, Mr. SCHENCK.

2. SURGICAL PATHOLOGY—A didactic, recitation, demonstration and laboratory course comprising several subjects in surgical pathology but paying most attention to the study of tumors. The extensive material from the university clinics is utilized, which, with the collection in possession of the laboratory, affords an opportunity of studying every variety of tumor formation. Special attention is paid to the differential microscopical diagnosis of the tumors of most clinical interest. Test examinations of unknown specimens are frequently given. Sophomore year, four hours a week during the second semester. Professor ALBERT, Dr. EGDAHL, Mr. QUAIFE, Dr. DECKER, Mr. CHRISTIANSEN, Mr. MEENTS.

3. BACTERIOLOGY—A didactic, recitation and laboratory

course, which includes the preparation of artificial culture-media, the cultivation of micro-organisms, and their separation by means of plate cultures, the staining, recognition, and diagnosis of the different pathogenic micro-organisms as they are related to the various infectious processes.

Special attention is given to the bacteriological analysis of water, and the practical application of bacteriologic technique to hygiene and clinical diagnosis. The didactic lectures include such subjects as cannot properly be pursued in connection with the laboratory work. About seventy different micro-organisms are studied in the laboratory. This department is fortunate in having associated with it, the state board of health bacteriological laboratory, which furnishes a great deal of material that will be utilized for class work. Junior year, seven hours each week during the first semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Dr. DECKER, Mr. CHRISTIANSEN, Mr. MEENTS.

4. SPECIAL PATHOLOGY AND PATHOLOGICAL HISTOLOGY—This course deals with the pathology of the special tissues and organs of the human body. The lectures are supplemented by demonstrations of gross pathological preparations derived from the clinics, autopsies and the pathological museum. Every fourth lecture will be illustrated by the use of the epidiascope. The laboratory work will comprise the preparation and study of microscopic sections, illustrating as far as possible, the subjects considered in the didactic lectures. Junior year, five hours each week during the second semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Mr. QUAIFE, Dr. DECKER, Mr. CHRISTIANSEN, Mr. RICHARDS, Mr. SCHENCK, Mr. MEENTS.

5. HAEMATOLOGY—A didactic, recitation, demonstration and laboratory course devoted to the study of blood. The course will begin with a consideration of the technique necessary for making a blood examination, and the student will receive thorough training in the use of the Thoma-Zeiss and Gower's Hemocytometers, the Von Fleishl and Gower's hemoglobinometers in the Hammerschlog apparatus, the hematocrit, and the various other instruments necessary for a blood analysis. This is followed by a con-

sideration of the general and special pathology of the blood —the student being supplied with coverglass preparations representing the more important pathological conditions of the blood. The abundance of clinical material at the university hospital affords opportunity for thorough training in this subject since every student makes blood examination of every patient under his care. Senior year; one lecture and two hours of laboratory work each week during the first quarter of the first semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Mr. QUAIFE, Dr. DECKER, Mr. CHRISTIANSEN, Mr. RICHARDS.

6. CLINICAL MICROSCOPY—A didactic, recitation, demonstration and laboratory course devoted to the study of urine, sputum, stomach contents, vomitus, faeces, milk, dropsical effusions, cyst contents, and animal parasites, also instruction in pathological technique, and such methods of clinical diagnosis as involve the usual microscopical and bacterial analysis. Special attention is given to the rapid diagnosis of fresh material, uterine curettings and the early signs of malignancy. Senior year; one lecture and two hours laboratory work each week during the second quarter of the first semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Mr. QUAIFE, Mr. CHRISTIANSEN, Mr. RICHARDS.

7. AUTOPSIES—Post-mortem examinations are made of all available cases. Since no stated time can be set for these demonstrations, members of both junior and senior classes are excused from other work in hand to attend the clinical autopsies.

Students are permitted to assist at post-mortem examinations and are instructed in the methods of making such examinations and of recording proper protocols of the results.

The microscopic findings are studied in each case for comparison with the macroscopic changes. Professor ALBERT, Dr. EGDAHL, Mr. SCHENCK, Mr. MEENTS.

8. PATHOLOGICAL TECHNIQUE—An optional laboratory course designed for those who desire to specialize in pathology. The work will include the principles and general methods of the investigation of such material as usually comes to the pathologist for diagnosis. Also the principles

and methods involved in research work. This course is also open to students in the graduate college. Number in class limited to six. Ten hours (or as much more time as desired) each week during the first quarter of the second semester. Professor ALBERT, Dr. EGDAHL, Mr. QUAIFE, Mr. SCHENCK, Mr. MEENTS.

9. BACTERIOLOGICAL TECHNIQUE—A laboratory course designed for advanced students and physicians who desire to specialize in bacteriology. The course is intended principally to prepare the student for such duties as are usually required of health officials. The work will include the technique necessary for every form of bacteriological analysis. The drill in practical work will be thorough and complete—such that the graduates of the course will be competent and reliable bacteriologists. This course is also open to students in the graduate college. Number in the class limited to six. Twelve hours each week, during the first semester or twenty-four hours each week during the second quarter of the first semester. Professor ALBERT, Dr. EGDAHL, Mr. BYRNES, Dr. DECKER.

10. ADVANCED WORK FOR A DEGREE IN THE GRADUATE COLLEGE—The department offers opportunities, to candidates for higher degrees, for special work in pathology and bacteriology. The student will be assigned a private laboratory, will have free access to the special laboratory of the department and will be supplied with the tissues and reagents necessary for the work of such a course. Course and time to be arranged. Professor ALBERT.

DEPARTMENT OF THEORY AND PRACTICE OF MEDICINE.

PROFESSOR BIERRING; DR. VAN EPPS, DR. DECKER, DR. MCCLINTOCK, MR. ALBERT.

The instruction in internal medicine is by lectures, recitations, reviews, and clinics. Special attention is given to the physical examination of patients and analysis of secretions, in order to systematically interpret the clinical findings.

The pathology, pathogenesis, clinical course of disease, and applied therapeutics is regarded as of special impor-

tance. By reason of the continued increase in the number of clinical cases it is possible to illustrate most of the diseases treated in the didactic courses. As a considerable number of patients are subsequently referred for operative treatment, the student has the opportunity of seeing the cases considered by more than one department.

The laboratory of the medical clinic is well equipped with all apparatus and reagents necessary to medical diagnosis, and furnished with general and special hand books.

1. PERCUSSION AND AUSCULTATION—A demonstration and recitation course in which the student is trained in inspection, percussion, and auscultation of the normal body, especially the thorax, after which the same methods are applied in examining morbid changes in typical cases, the student being required to carry on the work personally under the supervision of the instructor. Junior year. Two hours each week during first semester. Dr. VAN EPPS.

2. PHYSICAL DIAGNOSTICS—A demonstration course in which the work in physical examination of patients is continued, and includes the special methods applied in the examination of the abdominal organs and the nervous system. Instruction is also given in the taking of clinical histories. Junior year. Two hours each week during second semester. Dr. VAN EPPS.

3. THEORY AND PRACTICE OF MEDICINE—Infectious diseases, diseases of the circulatory and respiratory systems. A lecture and recitation course. Junior and senior years. Four hours each week during the first semester. Professor BIERRING.

4. THEORY AND PRACTICE OF MEDICINE—Diseases of the digestive and urinary tract, metabolic diseases, and diseases of the nervous system. A lecture and recitation course. Junior and senior years. Four hours each week during the second semester. Professor BIERRING.

5. CLINICAL MEDICINE—Two clinics are held each week at which cases are presented for diagnosis and treatment. Patients are assigned to members of the senior class, who take the history, work out the present condition, and write the results, with differential diagnosis and plan of treatment. Each case is to be followed by the student assigned

as long as it remains in the hospital. Whenever practicable, methods of treatment, such as massage, lavage, etc., are carried out by the student. The histories are read in whole or part at the clinical conferences. Junior and senior years. Four hours each week during first and second semesters. Professor BIERRING.

6. PRACTICAL ELECTRO-THERAPEUTICS—A demonstration course of the uses of electricity in the diagnosis and treatment of disease. Advanced students are instructed to apply the different methods of treatment personally and thus obtain a practical knowledge of the same. The student is taught here also the methods for generating X-ray and of employing them in diagnosis and therapeutics. Special work is also carried on in Skiagraphy and its relation to diagnosis. Senior year. Three hours each week throughout the year. Dr. MCCLINTOCK, Dr. VAN EPPS.

7. NEUROLOGY—A didactic and demonstration course on neurological diagnosis, with special reference to the relation of neuro-pathology to clinical neurology. Senior year. One hour each week during the second semester. Dr. VAN EPPS.

8. PAEDIATRICS—This subject is presented by means of lectures and recitations. Special stress is laid upon diagnosis, particularly of the contagious diseases and those of the gastro-enteric tract. The practical treatment of the common ills of infancy and childhood receive careful attention. Senior year, first semester, second quarter, twelve hours. Dr. DECKER.

9. CLINICAL LABORATORY, ADVANCED WORK AND SPECIAL RESEARCH—During the past year the Board has established and generously equipped a clinical laboratory of the department of internal medicine, on the third floor of the general laboratory hall; this, in connection with the clinical laboratory in the University Hospital affords ample opportunities to senior and advanced students to pursue special research in internal medicine.

Each member of the senior class is required to carry on all chemical and microscopic analyses necessary in the patients assigned to him, under the supervision of the head and clinical assistant of the department.

Ample provision has been made for all special apparatus in haematology, cryoscopy, and the estimation of blood pressure.

Candidates for higher degrees and members of the graduate college may, in the clinical laboratory, carry on special work in internal medicine leading up to such degrees under the supervision of the head of the department. Professor BIERRING.

DEPARTMENT OF SURGERY

PROFESSOR JEPSON; DR. BURGE, DR. CRAWFORD, DR. LORD, DR. BLYTHE

This subject is graded in the third and fourth years, and is taught by lectures and recitations; by laboratory work in minor surgery, operations on the cadaver, and surgical technique; by ward classes, and by clinics in the university hospital, at which operations in every branch of surgery are open to the class.

1. THE PRINCIPLES OF SURGERY—Hyperæmia; simple inflammation; infective inflammation; the process of repair; gangrene; shock; fever; surgical fevers; septicæmia; pyæmia; erysipelas; hospital gangrene; tetanus; hydrophobia; actinomycosis; anthrax; glanders; snake-bite; tuberculosis; surgical tuberculosis of joints and bones; syphilis. Lectures and recitations, three hours a week, first semester, junior and senior years. Professor JEPSON.

2. THE PRACTICE OF SURGERY AND ORTHOPEDIC SURGERY—Injuries and diseases of regions and systems; fractures and dislocations; deformities, with general principles of pathology and treatment. Lectures and recitations, four hours a week, second semester, junior and senior years. Professor JEPSON.

3. TUMORS—A special course on the classification, description, and pathology of tumors, with general principles of treatment. Lectures and recitations, with laboratory demonstration. One hour a week, first semester, second year. Dr. ALBERT.

4. MINOR SURGERY, BANDAGING, AND DRESSING—Practical instructions, by demonstration and practice, in the various manipulations of minor surgery, including the application of splints and bandages. Two hours a week, first semester, junior years. Drs. BURGE and LORD.

5. OPERATIVE SURGERY—A dissecting-room course, consisting of all the operations in modern surgery, performed by sections of the class, under the supervision of instructors. Two hours a week, second semester, senior year. Drs. BURGE and LORD.

6. OPERATIVE TECHNIQUE—Lectures and practical work on operative procedures, principles of asepsis, antisepsis, and sterilization; preparation of patient and operator, of instruments and operating rooms; anæsthesia and anæsthetics; hæmostasis; ligatures; sutures; dressing and care of wounds. The technique of kidneys, gall-bladder, stomach, and intestinal surgery, and other operations, such as trephining, tracheotomy and intubation, are illustrated before the class on the lower animals under antiseptic regulations. One hour a week, first semester, junior year. Dr. CRAWFORD.

7. CLINICAL SURGERY—Clinics, at which advanced students are required to assist, and at which operations and manipulations in general surgery are demonstrated to students of third and fourth years, and to other students whose schedule does not prevent attendance. Six to eight hours a week throughout the junior and senior years. Professor JEPSON.

8. WARD CLASSES — Examinations, observation and dressing of patients, in wards of the university hospital, in company with the assistant to the chair of surgery. Class in sections, daily work, first and second semester, senior year. Drs. BURGE and LORD.

9. ANAESTHETICS—During the junior year each member of the class will receive practical instruction in the production of general and local anæsthesia, under the supervision of the anæsthetist of the surgical clinic. Class in sections, one section a week. Junior year. Dr. BLYTHE.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

PROFESSOR GUTHRIE; DR. WHITEIS, DR. MUELLER

OBSTETRICS

This course embraces a thorough training in diagnosis of pregnancy, the physiology and pathology of pregnancy, diagnosis of presentation and positions, the management of labor, normal and abnormal, measurements of the pelvis, and a complete course upon surgical obstetrics; taught by wet specimens, upon the manikin, and upon patients when practicable.

The class is divided into sections for study and drill in diagnosis and in operative obstetrics.

1. DIDACTIC LECTURES—Two each week during the session upon obstetrics, including a discussion of physiology and pathology, management of gestation, management of labor, normal and abnormal labor, management of puerperium, dystoaic, and care of new-born child. Junior year.

2. OPERATIVE OBSTETRICS—Course of six lectures, illustrated by both dried and wet specimens. Senior year.

3. COURSE UPON THE MANIKIN for diagnosis and demonstrating the use of forceps and other mechanical appliances and in obstetrical manipulation, equivalent to one hour each week during the session. Senior year.

GYNECOLOGY

The instruction in this subject for both junior and senior classes combines didactic lectures, recitations, and demonstrations in both major and minor operative gynecology. The following courses are given:

4. BEDSIDE CLINIC—A ward clinic will be held every week, where each student will have an opportunity to examine the patient and to observe both the post-operative condition and the treatment of all operative cases. The merits of each case are discussed and indications for after treatment carefully studied. Students will be drilled in the matter of special diet and hygiene. Senior year.

5. WARD CLASS in diagnosis will be given each week throughout the year, at which sections will be instructed in

the matter of securing good histories and drilled in taking the same. They will be taught how to conduct an examination and from history and physical condition to form correct diagnosis. Senior year.

6. DIDACTIC LECTURES—The first semester is occupied with lectures on the general scope of the subject, methods of examination, etiology, pathology, and general management of gynecological patients. The rest of the course will be devoted to a discussion of special conditions, operative and gynecological technique. Junior and senior years. One lecture a week.

7. CLINIC will be held each week, demonstrating methods of examination and diagnosis, illustrating both major and minor gynecological operations. A constant effort will be made to instruct in modern methods and improved technique. Junior and senior years.

8. GYNECOLOGICAL LANDMARKS—One hour each week during the first semester is devoted to a study of landmarks and cultivation of touch in palpating pelvic viscera.

DEPARTMENT OF OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY.

PROFESSOR DEAN; MR. BAILEY.

The department of opnthalmology, otology, rhinology and laryngology occupies the ground floor of the west wing of the univeristy hospital.

The suite of rooms is composed of a large waiting room, a clinical room, a combined operating and treatment room, and a clinical laboratory.

The major operations are performed in the surgical amphitheatre of the hospital.

The clinical room is supplied with enough lights on brackets with the universal movement so that each student has both gas and electric light for his own individual work. The treatment and operating room is well equipped with instruments for operations upon the eye, ear, nose and throat and for their treatment.

Connected with the clinical room is a clinical laboratory in which are microscopical specimens of all the diseases of the eye, ear, nose and throat. There is also an abundance of anatomical sections showing the pathological, the normal,

and the anomalous conditions of the eye, ear, nose and throat. These specimens are so prepared and arranged that the student may take them and study them at his leisure. He may diagnose his case in the clinic room and merely step across the hall and examine the gross and microscopical characteristics of the disease present. Examinations of the various secretions and discharges obtained in the clinic are made here.

Bacteriological investigations may also be made in this laboratory. In the new laboratory building there is a clinical laboratory for this department. This laboratory is abundantly supplied with pathological specimens of diseases of the eye, ear, nose, and larynx. There is an abundance of normal anatomical specimens of the head, nose, temporal bone, and larynx. These specimens have the soft parts adherent to the bone. They are nicely hardened in formaldehyde and alcohol. The laboratory is well equipped with microscopes, microtomes and instruments and apparatus by means of which the student can make careful dissections of the specimens which he is studying. The laboratory contains also specimens which are already dissected to which he can at any time refer.

Any senior or graduate student wishing to make a special study of these subjects is allowed the use of all these specimens and instruments and is furnished with the anatomical material for dissection with normal and pathological material for mounting specimens, etc., free.

Instruction in this department is given by lectures, recitations, demonstrations, and personal work done in the clinic. There are three kinds of clinics, the out clinic, treatment clinic, and the clinic for major operations. The students attend these clinics only in sections. By this section method of instruction each student receives personal instruction at each session and at the operating clinic they are able to see the operation.

In the out clinic each student is assigned one or more patients which he himself must examine and diagnose and recommend treatment for.

The doctors in charge of the clinic go over each new case with the student who has had charge of it and point out to

him such mistakes as he may have made and call his attention to the interesting points in the diagnoses and in differential diagnosis. The endeavor is to teach in a practical way the manipulation of the eye, ear, nose and throat instruments.

To the treatment clinic all those who have been operated on and also those who must have daily attention, come. The students, two at a time, are allowed to come to these treatment clinics and do such part of the treatment as they can, and are given demonstrations in the treatment of such cases as they cannot well handle themselves.

At the operating clinic which is held in the surgical operating room of the hospital are performed only the major operations on the eye, ear, nose and throat. The entire class attends these clinics and are called down in sections of six to witness the operations close at hand. In this way each student during the year gets a close view of all the operations.

Special attention is given to refraction. The department is especially well equipped with apparatus and instruments for refracting the eye. Students in sections are given demonstrations on the ophthalmometer, amblyometer, deviometer, etc., and are given special instruction in the use of the ophthalmoscope and retinoscope. At the out clinic two students are in turn assigned to the refraction cases and must themselves work out the error of refraction and prescribe lenses and fit the frames, having first gone over all the objective and subjective tests. Their work is then gone over by one of the instructors in charge and their attention called to any mistake made. It is the endeavor to get the student to be able to take care of any ordinary refraction case himself. For such students as wish to take special work in refraction a special course is given and in this course all of the finer and more intricate tests are explained including a complete course in the examination of the extra ocular muscles and the pathological conditions as they may exist in the back of the eye.

Three out clinics, three treatment clinics and one operative clinic are held in this department each week, in order that the class may do work in sections.

1. METHODS OF EXAMINATION AND DIAGNOSIS OF DISEASES OF THE EYE, EAR, NOSE, AND THROAT—The anatomy and physiology of the eye, ear, nose, and throat. Diseases of the ear, nose and throat; of the eye lids and the eye ball. Senior year, first semester, two hours a week. Professor DEAN, Mr. BAILEY.

2. DISEASES OF THE EYE AND EAR—Fundus lesions and relations of diseases of the eye to internal medicine; diseases of the ear. Senior year, second semester, two hours a week. Professor DEAN, Mr. BAILEY.

3. REFRACTION—In connection with the out clinic students, two at a time, will refract patients. Senior year. Professor DEAN, Mr. BAILEY.

4. OPERATIONS ON THE EYE, EAR, NOSE AND THROAT — The class in sections will perform major operations on temporal bones hardened in alcohol and eye operations upon eyes fixed in a manikin. Senior year. Professor DEAN, Mr. BAILEY.

5. PRACTICAL CLINICAL INSTRUCTION at the university hospital in the out clinic in diagnosis of diseases of the eye, ear, nose and throat, in methods of examining, in the practical use of the instruments and in the application of remedies operative and medical in sections of not more than twenty each. Senior year, first and second semesters, two hours a week. Professor DEAN, Mr. BAILEY.

6. Clinic once a week major operations on the eye, ear, nose and throat. Senior year, first and second semesters, two to three hours a week. Professor DEAN, Mr. BAILEY.

7. Clinical microscopical and practical anatomy of the eye, ear, nose and throat. Four hours a week for one semester. Course optional. Number limited to two. Mr. BAILEY.

8. Treatment clinic. Three clinics a week are held and students two at a time attend these clinics and treat patients suffering with diseases of the eye, ear, nose and throat. Senior year, first and second semester. Mr. BAILEY.

9. LABORATORY WORK—The class in sections of six are taught to use the ophthalmoscope, retinoscope, ophthalmometer, perimeter, and the essentials of refraction. First quarter, two hours per week. Mr. BAILEY.

10. ADVANCED WORK FOR DEGREE IN GRADUATE COLLEGE—This department offers advanced work to the candidates for higher degrees. The student will be given a place in the laboratory and he will have free access to the clinics and will be supplied with all the material necessary for the work. Time to be arranged. Professor DEAN.

MEDICAL JURISPRUDENCE

MILTON REMLEY

The course is opened with the consideration of the nature and purposes of law, then of laws affecting the practice of medicine. Malpractice is discussed and the liability of the physician to the patient and others, including that of municipalities for the treatment of patients. The questions of legal insanity, expert evidence and expert witnesses, hypothetical cases, causes of death, and post mortem examination follow, and, in conclusion, the subject of state and local boards of health, quarantine regulations, etc. Senior year, first semester, twelve hours.

INSANITY

DR. HILL

This subject is discussed as concisely as possible with the special needs of the general practitioner constantly in view, and the material that appears at the clinic from time to time during the year is utilized in illustration. Senior year, second semester. Twelve lectures, with clinical instruction at the Hospital for the Insane at Independence.

DERMATOLOGY

DR. KESSLER

The instruction in this branch is largely clinical, students of the class being assigned patients for examination, diagnosis, and treatment. Didactic lectures and recitations are given on the rarer forms of disease. Senior year. Throughout the session, one hour each week.

DENTISTRY

Dr. Breene

The lectures on this subject comprise such principles of dental pathology and therapeutics as are essential to the practitioner of medicine. Instruction is given in the application of mechanical appliances for the correction of cleft palate, also in methods of applying retention in fractures of maxilla. Junior year, second semester, five hours.

TEXT-BOOKS AND BOOKS OF REFERENCE

The following are recommended by the faculty:

Medical Dictionary—Gould, Duane, Dunglison.

Anatomy—Gray, Quain, Gerrish, Morris, Treve's Surgical Applied Anatomy.

Dissectors—Holden, Heath, Ellis.

Comparative Anatomy — Wiedersheim, Jeffery Bell, Howell.

Physiology—American Text-Book, Kirk, Stewart, Stirling.

General Chemistry—Remsen, Bartley, Roscoe and Schorlemmer.

Analytical Chemistry—Rockwood.

Physiological Chemistry—Rockwood, Simon, Herter, Vaughn and Novy.

Urine Analysis—Purdy, Ogden.

Toxicology—Wormley, Taylor.

Surgery—Park, American Text-Book of Surgery, DaCosta, Stimson on Fractures and Dislocations, Wharton's Minor Surgery and Bandaging, Warren's Surgical Pathology, Senn on Tumors.

Pathology—Colpin, Stengel, Delafield & Prudden, Thayer, American Text-Book, Warren's Surgical Pathology, Kauffman — Specielle Pathologische Anatomie; Ziegler, Green.

Bacteriology—McFarland, Muir & Ritchie, Crookshank, Park, Williams, Levy & Klemperer, Goadby—The Mycology of the Mouth, Prescott & Winslow—Elements of Water Bacteriology.

Bacteriological Technique—Eyre.

Pathological Technique—Mallory & Wright.

Clinical Diagnosis—Boston, Simon Lenhartz, Brooks.

Hæmatology—Ewing, Cabot, DaCosta.

Clinical Diagnosis—Bolton, Simon, von Jaksch, Oertel.

Practice of Medicine—Osler, Struempel, Anders, Tyson, French, Thompson, Eichorst, American Text-Book of Theory and Practice of Medicine, Albutt's System.

Physical Diagnosis—Cabot, Herrick, Tyson.

Medical Diagnosis—Butler, Vierordt, Musser, DaCosta, Flint.

Obstetrics—American Text-Book of Obstetrics, Lusk, Davis, Parvin, Leishman, Playfair, King, Dorland.

Obstetric Surgery—Grandin and Jarmin.

Embryology—Minot, Manton.

Gynecology—Skene, Thomas and Munde, Garrigues, American Text-Book, Pozzi, Davenport, May's Manual, Clinical Gynecology, Keating and Coe, Dudley.

Materia Medica—White and Wilcox, Potter, Cushny.

Therapeutics—Sollmann, Hare, Wood.

Diseases of Children — Holt, Starr's American Text-Book, J. L. Smith, Goodhart.

Medical Jurisprudence—McClellan's Civil Malpractice, Wharton and Stille, Beck, Elwell.

Histology—Huber, Bailey, Stoehr, Piersol, Schafer, Stirling.

Ophthalmology—Fuchs, Juler, Noyes, Nettleship on the Eye.

Otology and Rhino-Laryngology—Deuch, Bosworth, Kyle, Price-Brown, Buck, McBride, American Text-Book.

Insanity—Compendium of Insanity, Chapin; Mental Diseases, Berkley; Nervous and Mental Diseases, Church and Peterson.

Dermatology—Jackson, Crocker, Stelwagon and Hyde.

Hygiene—Notter and Firth, Abbott.

Dietetics—Thompson, Pavy.

Text-books and books of reference can be obtained at an average cost per volume of from $2.00 to $5.00, or $15.00 to $20.00 per year.

The thorough study of a single text-book in each department is of far greater advantage to the student during

his college course than the cursory reading of several. It is therefore advised that a single work in each branch be chosen, using any of the others for reference. The first one of each of the above lists is preferred.

UNIVERSITY HOSPITAL

The university hospital was erected by the University in 1897 at a cost of fifty-five thousand dollars, and ten thousand dollars have recently been expended in remodeling and equipping the institution after the latest and most modern ideas until the University may now with justice boast of the finest and most modernly equipped hospital in the West. With an administration building thoroughly furnished, with large and commodious wards, as well as private rooms, with a clinical amphitheatre that will comfortably seat two hundred or more, and with separate surgical, gynecological, medical, ophthalmological, and laryngological operating rooms, together with a well supplied Free Dispensary, open throughout the year, but little is left to be desired.

CLINICS

The enormous increase in the number of clinical cases treated at the university hospital this year as compared with that of last has made the amount of material so great as to furnish the medical department with a generous abundance of cases of almost every kind and character. Each case is fully utilized as a means of instruction for the benefit of the students. Members of the senior class, under the direction of the professors in charge, make a careful study of each case before it is operated upon. The amount of clinical material is now such that each member of the senior class is required to examine and report upon a number of cases each week in addition to observing all others. The students of the senior class are divided into ward classes of six or eight men and are required to accompany the attending physicians in their rounds and are given opportunities to study the treatments given, to observe the progress of each case, and note the dressings used.

CLINICAL PATIENTS

Medical cases should be referred to Professor W. L. Bierring; surgical cases to Professor Wm. Jepson; gynecological cases to Professor J. R. Guthrie; eye, ear, nose, and throat cases to Professor L. W. Dean; dermatological cases to Dr. J. B. Kessler.

RESIDENT PHYSICIANS

Appointments as resident physicians in state and other institutions are made each year from the graduates of the college of medicine. These are awarded to such of the applicants as the faculty judges best prepared for the positions, the successful candidates being allowed to select, in the order of their rank, from those which are available.

For the present year the appointments are, Dr. Charles S. Krause, University hospital; Dr. Ray Ranney Kulp, Mercy hospital, Davenport, Dr. Jesse Blaine Naftzger, St. Joseph's hospital, Sioux City.

REQUIREMENTS FOR GRADUATION

1. The candidate must be twenty-one years of age.
2. He must be known to be of good moral character.
3. The time of study must include attendance upon at least four full courses of lectures, the last of which must be taken in this institution. The time occupied by each of the four courses of lectures, shall not be less than thirty-four weeks, and no two of the four courses shall be within the same year.
4. The candidates must have satisfactorily completed at least four courses in practical anatomy.
5. The deportment during the term must have been unexceptionable.
6. Attendance upon all lectures, clinics, and other instruction in the course must have been in accordance with the requirements of the college.
7. All members of the freshman class will be examined in general chemistry, histology, physiology, and anatomy at the end of that year. The examination in general chemistry and histology will be final should the student show the required proficiency.

8. Members of the sophomore class at the end of that year must pass satisfactory examinations in anatomy, physiology, physiological chemistry, general pathology, materia medica and pharmacy.

9. Members of the junior class will be given a final examination at the end of the year in therapeutics, obststrics, hygiene, special pathology, and bacteriology.

In the case of failure to pass any of the examinations, the student must be re-examined before registration at the opening of the next session. If he fail in this second examination, he will be allowed to present himself for re-examination only for attendance upon another course of lectures, and to this he will not be admitted unless his average record for the previous year is satisfactory. A failure in more than two branches at the September examination will debar the student from admission to a higher class.

Students of the senior class who are candidates for the degree of Doctor of Medicine must, before May first, present to the secretary of the faculty certificates of legal age. During the last week of the term, having complied with the other requirements, they must pass a satisfactory examination in practice of medicine, surgery, ophthalmology, gynecology, paediatrics, dermatology, otology and rhino-laryngology, and in any other subjects taught, if so directed by the faculty at the beginning of the term.

Class standing and recitation marks, together with demonstrators' reports and final examinations, will be taken into consideration when determining the candidate's fitness to receive the medical degree.

TUITION

Every student, before entering any department of the University is required to pay a matriculation fee of ten dollars. This fee is required the first year only.

The tuition charge in the college of medicine is twenty-five dollars a semester, and is due at the opening of each semester. A student registered in more than one college of the University is required to pay the tuition of the college having the higher or highest rate of tuition, of the colleges in which he is registered, and is then granted free

tuition in any other college of the University. Thus students taking the combined liberal arts and medical course pay the liberal arts tuition of ten dollars a semester while they are taking work in that college only, but as soon as they take up the work in the College of Medicine they are required to pay the regular tuition of the medical college and are granted free tuition in the College of Liberal Arts.

Tuition fees will in no case be remitted.

Students entering the college from other schools with advanced standing will pay ten dollars for dissecting materials used in making up deficiencies in this branch. A student carrying six hours or less of work in the University shall pay half the regular tuition in the college in which he is registered for the time during which he shall carry such work. For all honorably discharged soldiers or sailors of the Spanish-American war, who are taking a full course in this college there is a remission of $12.50 of each semester's tuition, making a total annual remission of $25.00.

There are no extra fees whatever, but for each laboratory course in chemistry, bacteriology and practical pharmacy, there is required a deposit of $3.00 to cover breakage and to insure the return of all keys at the close of the session. This sum (breakage, if any, deducted) is returned to the student on presentation of the certificate of the professor in charge of the laboratory in question.

The above statement is now in effect and will be understood to apply to all students in the college, irrespective of date of matriculation.

Alumni of the college will be admitted to lectures and clinics free of charge, but will pay the usual laboratory fees. Graduates of other medical colleges which are recognized by this college, will, when not candidates for a degree, be admitted to full lecture privileges upon paying the matriculation fee of $10.00 and a fee of $10.00 with the usual laboratory fees.

Seats will be assigned by classes in the order of registration at the University.

A certificate of attendance will be issued to each student at the close of the session.

NECESSARY YEARLY EXPENSES

Matriculation fee (first year only)	$ 10		$ 10
Tuition fee	50		50
Breakage	1	to	2
Room rent, 9 months	18	to	72
Board, 36 weeks	72	to	108
Books	12	to	20
Total	$163	to	$262

ALUMNI LIST

Graduates of this college are requested to acquaint the secretary of the faculty immediately of their postoffice addresses and to inform him promptly of any change of residence.

The following is a specimen programme:

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physiol'gy †	Chemistry *	Chemistry *	Histology †	Chemistry *	8:00 to 10:00 *Anatomical Laboratory*
9 to 10	Histology †	Physiol'gy †	Histology †	Anatomy ‖ *Recitation Sec. III*	Histology †	
10 to 11	Anatomy ‖ *Recitation Sec. I*	Anatomy ‖	10:00to 12:00 *Chemical Laboratory Sec. II*	10:00to 12:00 *Chemical Laboratory Sec. I*	Physiol'gy ‡ *Recitation*	10:00to 12:00 *Histologi'al Lab. Sec. I*
11 to 12					Pharmacy ¶ *2nd Sem.*	10:00to 12:00 *Chemical Lab. Sec. I*
1 to 2	1:00 to 3:00 *Histologi'al Laboratory Sec. I*	1:00 to 3:00 *Histologi'al Laboratory Sec. II*	Anatomy ‖ *Recitation Sec. II*	1:00 to 3:00 *Histologi'al Laboratory Sec. II*	1:00 to 3:00 *Histological Laboratory Sec. I*	
2 to 3		1:00 to 3:00 *Chemical Laboratory Sec. I*	1:00 to 3:00 *Histologi'al Laboratory Sec. I*		1:00 to 3:00 *Chemical Laboratory Sec. II*	
3 to 4	3:15 to 5:15	3:00 to 5:30	3:00 to 5:30	3:00 to 5:30	3:00 to 5:30	
4 to 5	*Chemical Laboratory Sec. II*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

SOPHOMORE YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9		General Pathology †	Materia Medica ‖	Materia Medica ‖	Pathology ‡ *Recitation*	
9 to 10	Anatomy ‖ *Recitation*	Anatomy ‖ *Recitation*	Anatomy ‖	Physiol'gy †	Anatomy ‖	8:00 to 12:00 *Physiol'g'al Laboratory*
10 to 11	Physiol'gy †	10:00to 12:00 *Physiol'g'al Laborato y*	*Physiolog-ical * Chemistry*	10:00to 12:00 *Physiol'g'al Laboratory*	Physiolog-ical * Chemistry	
11 to 12	Surgical Clinic §		*Physiology* †			
1 to 2	1:00 to 3:15 *Physiol'g'al Chem. Lab. Sec. I*	1:00 to 3:00 *Pathol'gi'al Lab. Sec. II Jan. to June*	1:00 to 3:15 *Physiol'g'al Chem. Lab. Sec. II*	1:00 to 3:00 *Physiol'g'al Laboratory*		
2 to 3	1:00 to 3:00 *Physiol'g'al Laboratory Jan. to June*	1:00 to 3:00 *Physiol'g'al Laboratory Sept. to Jan.*	1:00 to 3:00 *Pathol'gi'al Lab. Sec. I Jan. to June*			
3 to 4	3:15 to 5:30	3:00 to 5:30	3:15 to 5:30	3:00 to 5:30	3:00 to 5:30	
4 to 5	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Practice §	Surgery §	Practice §	Practice § *Recitation*	Practice §	Pathology † *Recitation*
9 to 10	Surgery §	9:00 to 11:00 *Gynecol'g'al Clinic*	Therapeutics ‡	Therapeutics ‡	Surg. Tech. § *1st Sem.* Physiol'gy ‡ *3rd Term*	Medical Clinic §
10 to 11	10:00 to 12:00 *Surgical Clinic*		Pathology †	Physical Diagnosis §	Surgical Anatomy ‖ *2nd Sem.*	Physical § Diagnosis *Demonstrations Sec. I*
11 to 12		Gynecology §	*Physical Diagnosis 1st Sem.* Hygiene ‡ *2nd Sem.*	Toxicol'gy *	Pathology †	
1 to 2	1:00 to 3:00 *Pathol'g'al Laboratory Sec. I*	1:30 to 3:00 *Surgical Clinic*	1:00 to 4:00 *Pathol'g'al Laboratory Sec. II Until Jan.*	1:30 to 3:00 *Medical Clinic*	Physical Diagnosis *Demonstrations Sec. II*	1:00 to 4:00 *Pathol'g'al Laboratory Sec. II*
2 to 3					1:00 to 4:00 *Pathol'g'al Laboratory Sec. I Until Jan.*	
3 to 4	Surgery §	Obstetrics ‡	Hygiene *2nd Sem.*	3:30 to 5:30 Pharmacology		
4 to 5	*Pathol'g'al Laboratory Sec. I*	Obstetrics ‡				

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Practice §	Surgery §	Practice §	Eye, Ear, Nose and Throat ‡	Practice §	*Eye, Ear, Nose and Throat* ‡
9 to 10	Surgery §	9:00 to 11:00 *Gynecol'g'al Clinic*	Medical Diagnosis §	Practice § *Recitation*	Practice §	9 to 11 *Medical Clinic*
10 to 11	10:00 to 12:00 *Surgical Clinic*		Paediatrics § *2nd Term*	Ward Class §	10:00 to 12:00 *Clinical Microscopy*	
11 to 12		Gynecology §		Toxicology		11:00 to 12:00 *Clinical Microscopy*
1 to 2	1:30 to 3:00 *Eye, Ear, Nose and Throat Clinic Sec. I*	1:00 to 3:00 *Surgical Clinic*	Dermatology §	1:30 to 3:30 *Medical Clinic*	1:30 to 3:00 *Eye, Ear Nose and Throat Clinic Sec. III*	
2 to 3			2:00 to 3:30 *Eye, Ear, Nose and Throat Clinic Sec. II*			
3 to 4	Surgery §		3:30 to 4:30 Ophthalmology §	3:30 to 5:30 *Operative Clinic Eye and Ear*	1:30 to 3:00 *Dispensary*	
4 to 5	1:30 to 3:00 *Dispensary*	5:00 to 6:00 *Operative Obstetrics*			3:00 to 5:00 *Eye and Ear Laboratory*	

THE UNIVERSITY HOSPITAL

OFFICERS OF THE HOSPITAL

WILLIAM R. WHITEIS, B. S., M. S., M. D.,
Director.

CHARLES S. KRAUSE, B. S., M. S., M. D.,
House Physician.

BERTHA WILKINSON, Graduate Nurse,
Principal of the Nurses' Training School.

MARION FIDLAR, Graduate Nurse,
Head Nurse.

THOMAS A. MAHER,
Interne.

JENNIE O. LOIZEAUX, B. PH ,
Cashier.

SCHOOL FOR NURSES

The University conducts in connection with the university hospital and the college of medicine, a training school for nurses designed to provide the best of instruction and experience for those who desire to enter the profession of nursing. The course extends over three years and provides instruction and experience in handling all kinds of cases. The instruction is given by the regular professors and lecturers of the college of medicine, and the principal of the training school together with some special lectures by outside authorities on topics of interest and importance to nurses. An information bureau is conducted in connection with the school for the benefit of the graduate nurses. Persons desiring to enter the training school will do well to make application some months before they are ready to enter upon their duty as it may be some time before a vacancy occurs.

The following course of lectures does not include the special lectures given before the school:

Obstetrics and Gynecology.....DR. GUTHRIE
October, November, December, Tuesdays.

General Surgery, dislocations, fractures, bandaging and anaesthesia .....DR. JEPSON
October, November, December, Mondays.

Ethics in Nursing .....DR. WHITEIS
October, Mondays.

Materia Medica .....DR. CHASE
November, December, Wednesdays.

Anatomy ..... DR. PRENTISS
January, February, Wednesdays.

General observations, symptoms, internal medicine, infectious diseases .....DR. BIERRING
January, February, March, Mondays.

Skin diseases.....DR. KESSLER
January, Tuesdays.

Eye, ear, nose and throat .....DR. DEAN
February, March, Wednesdays.

Physiology ..... DR. MCCLINTOCK
March, April, Wednesdays.

Children's diseases..... DR. ————
April, Mondays.

Bacteriology ..... DR. ALBERT
April, May, Mondays.

Food dietetics, urinalysis .....DR. ROCKWOOD
April, May, Wednesdays.

THE COLLEGE OF
HOMEOPATHIC MEDICINE

THE COLLEGE OF HOMEOPATHIC MEDICINE

FACULTY AND INSTRUCTORS

GEORGE EDWIN MACLEAN, M. A., B. D., PH. D., LL. D.,
President of the University.

JAMES G. GILCHRIST, M. A., M. D.,
Professor of Surgery.

CHARLES H. COGSWELL, M. D.,
Emeritus Professor of Obstetrics and Diseases of Women.

GEORGE ROYAL, M. D.,
Professor of Materia Medica and Therapeutics, Dean of the Faculty.

BENJAMIN R. JOHNSTON, M. D.,
Professor of Theory and Practice, and Clinical Medicine.

FREDERICK J. BECKER, M. D.,
Professor of Obstetrics and Gynecology.

WILLIAM L. BYWATER, M. D., O. et A. Chir.,
Professor of Ophthalmology, Otology, Rhinology, and Laryngology. Secretary of the Faculty. Director of the Hospital.

*ELBERT W. ROCKWOOD, B. S., M. A., M. D., PH. D.,
Professor of Chemistry and Toxicology.

*WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology.

*JOHN THOMAS MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

*HENRY ALBERT, M. S., M. D.,
Professor of Pathology and Bacteriology.

*HENRY JAMES PRENTISS, M. E., M. D.,
Professor of Anatomy.

THEODORE LINCOLN HAZARD, M. D.,
Lecturer and Assistant in the Department of Obstetrics, 1892. 114 Fairchilds St. (Homeopathic Hospital).

*Members of the faculty of the College of Medicine.

*JOHN P. MULLIN, M. D.,
Demonstrator of Anatomy.

*ANFIN EGDAHL, B. S., M. D.,
Instructor in Pathology and Bacteriology.

*CHARLES L. BEYDEN, E. M., B. S.,
Instructor in Mining and Metallurgy.

*CHARLES THAYER LINCOLN, B. S.,
Instructor in Chemistry.

*FREDERIC P. LORD, B. A., M. D.,
Demonstrator of Anatomy.

*RUDOLF ERNST KLEINSORGE,
Assistant Instructor in Physiology.

*EDWIN E. HOBBY, B. S., M. D.,
Assistant Demonstrator of Anatomy.

*RALPH LEONIDAS BYRNES, B. S.,
Fellow in Pathology.

*CLARENCE HENRY HANSON, B. S.,
Scholar in Physiology.

*LAWRENCE ALBERT QUAIFE, B. PH.,
Scholar in Pathology and Bacteriology.

JOHN WEST WILSON, M. D.,
Assistant to the Chair of Surgery.

WILLIAM HENRY WOLTMAN, M. D.,
Assistant to the Chair of Materia Medica.

JAMES MOORHEAD, M. D.,
Assistant to the Chair of Theory and Practice and Lecturer on Dermatology.

MILTON REMLEY, M. A.,
Lecturer on Medical Jurisprudence.

ERNEST ALBERT ROGERS, D. D. S., M. D.,
Lecturer on Dentistry.

*JOSEPH ANDERSON,
Attendant in Pathology and Bacteriology.

CARL GEORGE CLARK,
Interne Homeopathic Hospital.

FREDERICK ALDEN,
Interne in the Homeopathic Hospital.

*EDWARD ELLSWORTH BLYTHE, B. PH., M. D.,
Assistant in Histology.

*JOSEPH MAXWELL CADWALLADER,
Prosector in Anatomy.

ELVA MARION DUNHAM, GRADUATE NURSE,
Superintendent of the Homeopathic Hospital and of the Nurses' Training School.

*WALTER HENRY FOX,
Senior Assistant Demonstrator in Anatomy.

*ROBERT LINCOLN GLASE,
Prosector in Anatomy.

*DIEDRICH JANSSEN MEENTS, B. S.,
Assistant in Pathology and Bacteriology.

*CHARLES PLUME SCHENCK, B. S.,
Laboratory Assistant in Pathology and Bacteriology.

*ADELBERT W. STARBUCK, D. D. S.,
Assistant in Histology.

*EVAHN RUSSELL WALKER, B. S.,
Assistant in Physiology.

*ARTHUR DANIEL WOODS,
Junior Assistant Demonstrator in Anatomy.

THE COLLEGE OF HOMEOPATHIC MEDICINE

The twenty-ninth annual course of instruction will open on Thursday, September 21 , 1905, at 8 o'clock, A. M. In the afternoon of the same day, at 4 o'clock, the University convocation will be held, which constitutes the formal opening for all the colleges.

The year is divided into two semesters, each divided into two terms of nine weeks each. The commencement exercises and conferring of degrees will occur at 10 o'clock A. M., on June 13, 1906.

The course of study extends over four years, of nine months each. Men and women are admitted on equal terms. The large and well equipped laboratories of the University, the hospital facilities afforded by the union of the college and hospital under one roof, and the opportunity for collateral study in any department of literature or science, furnish facilities for securing an education in medicine not to be surpassed. Furthermore, a diploma from a state university of the first rank has a value that does not attach to that of any private school.

SPECIAL ADVANTAGES OF THIS COLLEGE

1st. In equipment and instruction our laboratories are better than those of any homeopathic college and equal to those of any college in the United States.

2nd. In the libraries of the University and college are about 60,000 volumes at the command of all matriculates.

3rd. The museums of the University afford an education in themselves.

4th. The association of our students with the other colleges of the University broadens the intellectual horizon.

5th. The people of Iowa are partial to the graduates of the State University. Every year the number of calls

for desirable positions sent the faculty for our graduates, is more than double the number of graduates.

6th. The cost of living in Iowa City is much less than in larger cities, while the social advantages are greater.

7th. The college being a part of the State University its diploma will never depreciate in value.

8th. The number of students compared with the number of instructors is not so large as to prevent each student from receiving individual attention, not only in the laboratories, but in the quizzes and sub-clinics.

9th. Our post graduate course gives an opportunity for those who have the degree of M. D. to obtain the additional degree of M. S. in Medicine.

10th. The last and most important advantage lies in our combined courses. The public at the present time requires a broad and liberal education of the medical profession. We are prepared to meet this demand. We are prepared to take the graduates of our high schools and after six years of careful and systematic training return them to the public fully equipped.

The faculty most heartily recommends the courses leading to the degrees of B. S. and M. D., to all who contemplate entering the medical profession.

REQUIREMENTS FOR ADMISSION

1. Each applicant for admission must present to the secretary of the faculty a satisfactory certificate of good moral character, signed by two physicians of good standing in the state from which he comes.

2. The following classes of applicants may be admitted without examination:

a. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges, together with a special certificate that they have studied Latin at least one year.

b. Graduates of normal schools established by state authority who present diplomas or certificates of graduation, together with a special certificate that they have studied Latin at least one year.

c. Graduates of accredited or other approved secondary schools who present *twenty-four (24)* preparatory credits, including at least one year of Latin. *One preparatory credit is defined as the equivalent of one high school study five days a week during a semester at least eighteen weeks in length, on the basis of four studies a day.* The preparatory credits must be properly certified by the superintendent or the principal of the school from which the applicant comes, on a blank form which may be obtained by addressing the President of the University, the secretary of the faculty of the College of Homeopathic Medicine, or the university examiner. This certificate should be sent to the university examiner *as early in the summer as possible.*

3. Applicants who present *twenty-two (22)* preparatory credits properly certified (as indicated under 2 c) may be admitted without examination, *on condition that they complete their preparation within one year from the date of their admission.* No applicant whose deficiencies exceed *two (2)* preparatory credits will be admitted as a candidate for graduation.

4. Applicants who do not present credentials as described above will be admitted without conditions *only upon passing examinations* in the following preparatory subjects:

a.	Latin (one year)	2 credits
b.	English	2 credits
c.	United States history	1 credit
d.	Arithmetic	1 credit
e.	Algebra, through quadratics	3 credits
f.	Plane geometry	2 credits
g.	Physics (one year)	2 credits
h.	Botany or some other science	1 credit

5. The applicant who passes examination in all of the subjects enumerated under 4, except such as stand for a total of *two (2)* preparatory credits, may be admitted *on the condition stated in paragraph 3.*

Applicants who present proper *certificates* covering all or any part of the preparatory studies designated under 4 for examination, may be admitted upon passing examinations in enough *other* preparatory studies to bring the num-

ber of their preparatory credits up to at least *twenty-two (22), on the condition stated in paragraph 5.*

7. All applicants who are admitted without Latin will be required to take the one-year course in medical Latin specially provided by the University, the fee being $5.00 for the course. This course is not a part of the regular course in homeopathic medicine, but is offered as a convenience for such applicants for admission as have not studied Latin. The class in this course will be organized on Monday, October 2, 1905. Students who take this course are required to pay this fee at the time when they pay the first installment of their regular tuition fee.

8. Students who enter with conditions in *other* preparatory studies than Latin must pass the regular entrance examinations in these studies either in February or September, 1906.

9. Students entering from other colleges of medicine with advanced standing must present credentials for preparatory work or be examined as stated above.

10. It is urged that any one expecting to enter the College of Homeopathic Medicine next September send all certificates of preparatory work to the university examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean, or the secretary of the faculty, for signature.

ENTRANCE EXAMINATIONS

Any person expecting to enter the College of Homeopathic Medicine next September should be careful to learn before the opening of the University exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the University, the secretary of the faculty of the College of Homeopathic Medicine, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programme given below.* He should present himself at once at the office of

the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the University. For a *series* of examinations covering two or more subjects, a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Monday, September 8, to Wednesday, September 20, 1905

Arithmetic,	1 credit,	Monday,	1:30 p. m.
Latin,	2 credits,	Monday,	3:30 p. m.
English and Eng. grammar	2 credits,	Tuesday,	4:30 p. m.
United States history,	1 credit,	Tuesday,	1:30 p. m.
Algebra,	3 credits,	Wednesday,	8:00 a. m.
Plane geometry,	2 credits,	Wednesday,	9:30 a. m.
Physics,	2 credits,	Wednesday,	1:30 p. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.

SECOND SEMESTER

Thursday, February 8, to Saturday, February 10, 1906

The examinations will be held at the same hours as in the programmes above, reading Thursday, Friday and Saturday for Monday, Tuesday and Wednesday, respectively.

All students having deficiencies in their medical work will appear for examination according to the following schedule.

Wednesday, September 20

Histology,	8:00 a. m.
Physiology,	10:00 a. m.
Pathology,	10:00 a. m.
Anatomy,	11:00 a. m.
Materia medica,	3:00 p. m.
Chemistry,	4:00 p. m.

COMBINED COURSES

Arrangements have been made with the faculty of the College of Liberal Arts whereby a student may receive credit in one college for work done in another, thereby obtaining the two degrees in six instead of eight years as would be required if each degree were taken independently. These combined courses are especially recommended to all students who intend to enter the profession of medicine.

REQUIREMENTS FOR ADMISSION TO THE COMBINED COURSE LEADING TO THE DEGREES B. S. AND M. D.

1.	Some *one* foreign language (Latin* preferred, but German or French accepted),	4 credits
2.	English and literature,	6 credits
3.	History, (may include civics),	2 credits
4.	Algebra, through quadratics, theory of exponents, and progressions,	3 credits
5.	Plane geometry,	2 credits
6.	Electives (*additional* accreditable work in foreign language, English, history, mathematics or science),	13 credits
	Total,	30 credits

For a detailed statement of the requirements for admission, see pages 78-82.

COMBINED COURSE OF SIX YEARS LEADING TO THE DEGREE OF B. S. IN THE COLLEGE OF LIBERAL ARTS, AND TO THE DEGREE OF M. D. IN THE COLLEGE OF MEDICINE

(The requirements for admission to this course pertain to the College of Liberal Arts, *not* to the College of Medicine.)

FIRST YEAR

German *or* French	5 hours
English	2 hours

*Applicants who do not present at least *one year* of Latin will be required to take the one-year course in Medical Latin at the University.

Mathematics	4 hours
Animal biology	4 hours
	15 hours

SECOND YEAR

English*	3 hours
Physics	4 hours
Animal biology	4 hours
Botany *or* Zoology	4 hours
	15 hours

THIRD YEAR

German *or* French*	3 hours
Chemistry	6 hours
Human anatomy in the College of Medicine	4 hours
Human physiology in the College of Medicine	3 hours
	16 hours

FOURTH, FIFTH, AND SIXTH YEARS

Medical work exclusively.

NOTE 1. The degree of B. S. to be conferred at the end of the fourth year; the degree of M. D. at the end of the sixth year, if the work has been completed.

NOTE 2. This course must be pursued as here outlined, no substitutions or changes in the order of studies being permitted, except that the starred (*) English and foreign language may be transposed.

MASTER OF SCIENCE IN MEDICINE

Students who, upon admission to the University, have presented preparatory work equivalent to the full requirement of the College of Liberal Arts and who have completed the four years course in medicine, may, upon the recommendation of the faculty of the College of Homeopathic Medicine, be admitted to the Graduate College as candidates for the degree of master of science in medicine.

Such students will be expected to select their major and minor subjects under the advice of the medical faculty. The terms upon which the degree will be granted are the same as those pertaining to the master's degree in general as set out in the announcement of the Graduate College.

PROMOTION

Admission to higher classes is secured only by examination, oral, written, or both, combined with the quiz-record and class standing. A failure to pass in two or more studies will prevent advancement until the conditions are satisfied. A failure in one study will not prevent advancement, but the student must pass a satisfactory examination in that study before the close of the year to which he is promoted. Students presenting credentials from colleges of homeopathic medicine in good standing in the American Institute of Homeopathy, may be admitted to the classes to which such credentials would admit them in the college from which they are issued. The faculty reserves the right to determine the class which any student shall enter, in the case of applicants who have had one or more years in other medical schools.

ADVANCED STANDING

Graduates in science or arts, also those with degrees in pharmacy or dentistry, from accredited schools, under the requirements of the State Board of Medical Examiners, may be granted advanced standing equal to one year's credit, on a schedule of studies to be determined in each case.

Students from colleges in good standing, who, during their college course, have devoted regular time to the study of the following branches: biology, botany, chemistry, physics, histology, physiology, and human anatomy, may be admitted to the second year of the medical course.

The number of hours following has been adopted as covering the above requirements:

	DIDACTIC	LABORATORY
General biology with physiology, especially the physiology of circulation, respiration, nerve and muscle, excretion,	180	
Botany, collegiate grade	72	
Mammalian anatomy with comparative anatomy (human),	60	60
Zoology, not including anatomy,	120	120
Chemistry, non-metallic, metallic, and organic, including stochiometry,	100	200
Physics,	180	
Histology, of cells and tissue,	32	48
Digestive tract, accessory glands, etc.	22	33
Respiratory tract, skin, and nervous system,	36	72
Also genito-urinary histology,	—	—
Embryology,	60	(including laboratory)

An opportunity will be given at this college for making up the human dissection of the freshman year.

Graduates from literary or scientific colleges having premedical courses which have been approved by this faculty will be admitted to the sophomore class upon the presentation of certificate of graduation from such courses. All others should present specific statements of the work completed before graduation with the above as the minimum amount.

Colleges now having such courses or announcing the intention of establishing them are:

Simpson College;	Iowa College;
University of South Dakota;	Des Moines College;
Western College;	Coe College.

Students entering under these conditions at the end of their first year must pass examinations in all branches of the freshman year not previously pursued by them. They must also have completed the work required of the sophomore class in the dissection of the human subject.

Graduates of non-homeopathic medical colleges may be admitted as graduate students, as follows: If an *ad eundem*

degree is sought they must matriculate in the University, pay the regular fee, and pass an examination in the therapeutics of the branches taught in this college. If a degree is not sought, a matriculation fee is to be paid, and such laboratory expenses as may be necessary, together with a lecture fee, if a full course is taken.

Alumni of this school will be admitted to all lectures and clinics free of charge, but if regular attendants they must be registered as graduate students.

By order of the board of regents no student will be enrolled until all necessary fees have been paid.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF ANATOMY

PROFESSOR PRENTISS; DR. MULLIN, DR. HOBBY, DR. LORD, MR. FOX, MR. WOODS, MR. CADWALLADER, MR. GLASE

The courses in Anatomy are described on pages 345-348.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR M'CLINTOCK; MR. KLEINSORGE, MR. WALKER, MR. HANSON

The courses in Physiology are described on pages 348-352.

DEPARTMENT OF CHEMISTRY AND TOXICOLOGY

PROFESSOR ROCKWOOD; MR. LINCOLN, MR. BRYDEN, MR. FARR

The courses in Chemistry and Toxicology are described on pages 352-355.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS; MR. HOOVER, DR. BLYTHE, DR. STARBUCK

The courses in Histology and Embryology are described on pages 355-357.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

PROFESSOR ALBERT; DR. EGDAHL, MR. BYRNES, MR. QUAIFE, DR. DECKER, MR. CHRISTIANSON, MR. RICHARDS, MR. SCHENCK, MR. MEENTS

The courses in Pathology and Bacteriology are described on pages 361-365.

MEDICAL JURISPRUDENCE

MILTON REMLEY

The courses in Medical Jurisprudence is described on page 375

INSANITY

DR. HILL

The course on Insanity is described on page 375.

DENTISTRY

DR. ROGERS

The lectures on this subject comprise such principles of dental pathology and therapeutics as are essential to the practitioner of medicine. Instruction is given in the application of mechanical appliances for the correction of cleft palate, also in methods of applying retention in fractures of maxilla. Junior year, second semester, five hours.

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

PROFESSOR ROYAL; DR. WOLTMAN

. The work of this department is graded and extends over the entire course of four years.

1. FRESHMAN YEAR—During the first semester one hour each week is devoted to the study of the organon. During the second semester one hour each week on Institutes and the Principles of Homeopathic Medicine. Professor ROYAL.

One hour each week during the entire year is devoted to the study of drugs. Special attention is given to the study of their action on the different tissues of the body. Dr. WOLTMAN.

An examination will be held in these branches at the end of each semester. Text books: Hahnemann's Organon, Dewey's Essentials of Materia Medica, Nash's Leaders.

2. SOPHOMORE YEAR—Two hours each week during the entire year will be devoted to the study of the characteristic symptoms of the Polycrests. Every effort will be made to impress on the student's mind, by lectures and quizzes, the individuality of each drug presented. An examination will be held at the end of the year. Dr. WOLTMAN.

3. JUNIOR YEAR—Three hours each week, besides one clinical lecture. The characteristic symptoms of each drug

are reviewed and the concomitant symptoms are grouped about these characteristics so as to classify them for therapeutic use. The remedies are divided into two groups, one of which is considered each year.* Professor ROYAL.

4. SENIOR YEAR—The seniors will have three hours each week in connection with the juniors, the work being the same as outlined above. At the clinic each senior will be repeatedly called upon to obtain from the patient the history of the case and the symptoms for therapeutic purposes. One additional hour each week will be devoted to the comparison of the symptoms of the different drugs belonging to the same class; during this hour instruction will be given in the use of repertories. Professor ROYAL.

Textbooks: Farrington's Clinical Materia Medica, Boeruke's Materia Medica, Cowperthwaite's Materia Medica, Allen's Hand Book, and Lilienthal's Therapeutics.

DEPARTMENT OF THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE

PROFESSOR JOHNSTON; DR. MOORHEAD

The work of this department is arranged to cover the ground with which the physician should be familiar in a complete and modern manner.

As noted elsewhere in this announcement a full laboratory course is given during the sophomore year.

It is expected that the major part of the didactic work will be completed in the junior year.

The senior year is thus left free for practical application of the preceding year's studies in the clinics, hospital, dispensary, and out-patient department.

The system of instruction used is a combination of the lecture and recitation methods. A printed syllabus giving the salient points of the subject under discussion is furnished each student.

The following courses are required:

1. PHYSICAL DIAGNOSIS—The principles of physical diagnosis; training in eliciting physical signs. Study of the normal subject.

*Minerals will be considered in 1905-1906.

One hour each week during the sophomore year. Professor JOHNSTON.

2. DISEASES OF THE CHEST—Instruction in this subject is given for the most part by the clinical lectures. One hour each week during the junior year is devoted to the study of etiology, symptomatology, diagnosis, and treatment. The senior student is required to make and defend his own diagnosis. His fitness for graduation is determined by his proficiency at the bedside. Professor JOHNSTON.

3. DISEASES OF THE KIDNEYS AND BLOOD—Following the work in the laboratory of the sophomore year, there will be a course of lectures during the junior year, and clinical diagnosis with examination of urine and blood in the senior year. Professor JOHNSTON.

4. INFECTIOUS DISEASES are taken up during the junior year, special attention being given to differential diagnosis. Students are taken in regular order to examine cases in the vicinity, and so come in contact direct with patients suffering from this important class of diseases. One hour each week. Dr. MOORHEAD.

5. DISEASES OF THE DIGESTIVE TRACT—One hour each week during the junior year. Clinical demonstration with practice in lavage and analysis of stomach contents during the senior year. Professor JOHNSTON.

6. DISEASES OF THE NERVOUS SYSTEM—A course of lectures illustrated by charts and specimens from the pathological laboratory, supplemented by clinical instruction. One hour each week during the senior year. Professor JOHNSTON.

9. MEDICAL DIAGNOSIS—A course reviewing the whole field previously gone over, but approaching the subject from the standpoint of the individual symptom and its possible significance in building up a diagnosis. Last semester, senior year. Professor JOHNSTON.

10. HYDROTHERAPY AND MANUAL THERAPEUTICS—A course of lectures upon the principles underlying these allied methods of cure with actual demonstration sufficient to enable the graduate to prescribe them intelligently.

TEXT BOOKS: Cowperthwaite's *Practice*, Arndt's *Practice*, Goodno's *Practice*, Raue's *Special Pathology* and *Thera-*

peutic Hints, Talcot's *Mental and Nervous Diseases*, O'Connor's *Nervous Diseases*, Loomis' *Physical Diagnosis*, Bartlett's *Principles of Diagnosis*.

REFERENCE—Osler's *Practice*, Anders' *Practice*.

DERMATOLOGY

One hour a week throughout the senior year will be devoted to the study of the skin, its nature, structure, functions, diseases and treatment, including also drug eruptions and their relation to the pathologinal features of skin diseases.

The instruction in this branch is both didactic and clinical, patients being assigned to members of the class for examinations, diagnosis, and treatment.

The lectures are illustrated by large colored plates and supplemented by quizzes and recitations. Dr. MOORHEAD.

Text-books: Kippax's *Diseases of the Skin*, Dearborn's *Diseases of the Skin*.

For reference: Piffard's *Diseases of the Skin*. Hyde *On the Skin*, American Text-Book.

DEPARTMENT OF SURGERY

PROFESSOR GILCHRIST; DR. WILSON, DR. JOHNSON

FRESHMEN—Work for this year will be abandoned, for the coming session.

SOPHOMORES—In this year a comprehensive course of instruction in *minor surgery* will be given, including bandaging, surgical dressings of all kinds, both temporary and permanent; care of instruments, minor surgical operations, and catheterizations. This will be followed by a course of instruction in aseptic technique, and another on surgical anesthesia. One hour a week, in first semester by Dr. WILSON, and additional hour weekly, for the first term, by Dr. JOHNSON.

Text-book: Martin's *Minor Surgery*.

In the second semester the class will attend exercises with the junior class, as far as the study of fractures and dislocations is concerned, this subject being of such a character, and of such vast practical value that it is thought

best to carry on this instruction through two years. Professor GILCHRIST.

Text-book: Hamilton (or Stinson) on *Fractures and Dislocations*. Attendance on clinics is required in this year.

JUNIORS—A thorough course on emergency surgery will be given in this year, two hours a week, throughout the year. The topics discussed will be such as shock, hemorrhage, effects of heat and cold, contusions and wounds, regional traumatisms, and fractures and dislocations. Professor GILCHRIST.

Text-books as above, and any standard modern text-book.

SENIORS—Two hours a week will be given to surgical pathology, throughout the year, surgical conditions of the various regions of the body, and the discussion of rather special character. The attempt will be made to carry the work along consecutive and systematic lines, giving large attention to therapeutics other than surgical, particularly those homeopathic in character.

Operative Surgery will be taught, didactically, in the first semester, work on the cadaver following in the second semester. The first part of this course will deal more particularly with the principles underlying the surgical art, and later such operative procedures as are commonly made will be done by the student, on the cadaver. The clinical lectures are designed to be an essential part of this course, for which reason attendance on all clinics, general and special, is obligatory. Professor GILCHRIST.

Text-book: Gilchrist's *Elements of Surgical Pathology*, *the American Text-Book of Surgery*, or any modern text-book on general and operative surgery.

Students in this year will be required to write a thesis, on some assigned topic, and defend the same at meetings of the seminary.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

PROFESSOR BECKER; DR. HAZARD

During the last four years the department of obstetrics has been supplied with a sufficient number of clinical pa-

tients to afford each senior student the advantage of witnessing and assisting at three deliveries. The presence of the patients at the hospital several weeks before confinement has given the added advantage of studying the symptoms and signs of pregnancy as well as the foetal heart sounds in connection with the same.

In the department of gynecology the didactic work is combined with clinical in such a manner as to give the students all the advantages of the bedside treatment of this important department of medicine.

The medical as well as surgical treatment of the diseases of women receive attention and the senior students are given every opportunity to familiarize themselves with gynecological technique.

JUNIOR YEAR—This year is devoted to a review of the anatomy of the pelvis and generative organs and their physiological functions; the physiology of ovulation and gestation; the changes in the maternal organism due to pregnancy; the diagnosis and hygiene of pregnancy, and the management of normal labor.

SENIOR YEAR—During this year special attention is given to the pathological conditions of pregnancy; the causes and management of abortion and premature labor; the diagnosis and management of the various foetal presentations; the methods of performing version; the use of the obstetrical forceps and the management of the puerperium and its pathological conditions.

During the second semester a practical course in the diagnosis and management of the various foetal presentations will be given.

Text-books: Leavitt, *American Text-Book of Obstetrics*, Guernsey, Williams.

Gynecology

JUNIOR YEAR—During this year one hour each week is devoted to abnormalities in the development and functions of the sexual organs, including puberty, menstruation with its various pathological conditions and the climacteric and inflammatory and other diseases usually coming under the head of medical gynecology.

Text-books: Wood, Minton's Uterine Therapeutics, Southwick.

SENIOR YEAR—During this year one hour each week is devoted to the study of the injuries of the genital tract, their results, treatment, and repair, displacements and their correction and neoplasms of the genital tract, their results and treatment. Professor BECKER.

Text-books: Skene, *American Text-Book of Gynecology*, Kelley's *Operative Gynecology*.

During the first semester of the senior year instruction will be given regarding the new-born infant, its care in health and in the accidents and diseases incident to birth. Dr. HAZARD.

PEDIATRICS

DR. HAZARD

SENIOR YEAR—One lecture each week during the year will be given on this subject. After treating of those conditions of the infant pertaining to the department of obstetrics the subject of nutrition will be considered, especial attention being given to infant foods and feeding, and the diseases of malnutrition. Following this the other diseases of children will be discussed and the whole supplemented by clinical illustration.

Text-books: Fisher, Tooker, Raue.

DEPARTMENT OF OPHTHALMOLOGY, OTOLOGY, RHINOLOGY, AND LARYNGOLOGY

PROFESSOR BYWATER

In this department all diseases of the eye, ear, nose, and throat are considered. For the practical study, there has been recently provided a commodious dark room, well supplied with all the necessary apparatus. Here patients are treated by the students under the supervision of the head of the department or competent assistants. After the patient has been carefully and thoroughly examined in the clinic and the treatment outlined, he is put in charge of a student, who assists in the treatment, watching the progress of the case until the patient is discharged. In this way practical and valuable experience is gained. The stu-

dent not only becomes familiar with the diseased conditions by being required to make diagnoses, but he also becomes acquainted with the use of the instruments used in the diagnosis and treatment of cases coming under this department.

The clinics are large, and there is sufficient clinical material, so that the students have an opportunity of seeing operations on a large variety of eye, ear, nose and throat cases.

OPHTHALMOLOGY

SENIORS AND JUNIORS—Didactic lectures and recitations are given on the anatomy and physiology of the eye, diseases of the orbit and lachrymal apparatus, conjunctiva, schlera, cornea, and extrinsis muscles. One hour each week during the first semester.

Lectures and recitations on the internal diseases of the eye, including those of the ciliary body, iris, retina, choroid, optic nerve, lens, and vitreous body. Eye-strains, due to errors of refractions are also considered. One hour each week during the second semester.

SENIORS, JUNIORS AND SOPHOMORES—Clinics two hours each week during the year. Cases are assigned to students for examination, diagnosis and treatment.

OTOLOGY

SENIORS AND JUNIORS—Lectures and recitations on the anatomy and physiology of the ear. All pathological conditions of the external, middle, and internal ears, and of the mastoid process are considered. One hour each week during the first semester.

SENIORS, JUNIORS AND SOPHOMORES — Attendance upon clinics two hours each week is required. This is held in connection with the general eye, ear, nose and throat clinic.

RHINOLOGY AND LARYNGOLOGY

SENIORS AND JUNIORS — Lectures on the anatomy and physiology of the nose, throat, and all accessory sinuses. Consideration of diseases of the nose, naso-pharynx, larynx, frontal sinuses, antrum, ethmoid cells, etc. One hour each week during the second semester.

SENIORS, JUNIORS AND SOPHOMORES—Clinics two hours each week during the year in connection with the general clinic.

SENIORS—Subclinic one hour each week during the year.

Use of Ophthalmoscope, Laryngoscope, Rhinoscope, etc.

The seniors are given practical instruction in the use of instruments employed in diagnosis of pathological conditions of the eye, ear, nose and throat at stated periods throughout the year. The class is divided into sections for this work.

Text-books: *Eye*, Norton, Buffum, MacBride, Noyes; *Ear*, Winslow, Houghton, Hallett, and Dench; *Nose and Throat*, Ivins, Veshlage, Quay, Kyle and Bishop.

CLINICS

SURGICAL CLINIC

The surgical clinic of this college is open to students of all the classes, but attendance is not obligatory in the freshman year. There is an abundance of clinical material. The general arrangement and clinical system are as follows: Senior Interne at the commencement of the year details two general arrangement and clinical system are as follows: these retires after one week's service, one after two weeks. One student is detailed each week thereafter so that each senior student has two consecutive weeks of clinical work. The duties are to assist at all clinics and sub-clinics, and to attend to all dressings in the hospital, under the supervision of the senior interne. This gives unusual facilities for practical instruction.

The surgical clinic is held on Saturday at 9:30 A. M. Professor GILCHRIST.

MEDICAL CLINIC

The medical clinic is open to all classes and regular attendance is required of juniors and seniors.

The first consideration in conducting this clinic is to give the student training in diagnosis and the plan adopted gives the senior student advantages equivalent to a post graduate course.

New cases as received are placed in charge of members of the senior class for examination.

A complete diagnosis must be made in writing, after which the patient is examined in open clinic and a criticism of the papers follows:

These papers are preserved and constitute an important factor in determining the student's standing.

Sub-classes under guidance of an instructor visit the homes of out-patients for the study of acute disease.

The treatment prescribed is in accordance with the established principles of homeopathy.

This clinic is held on Wednesday afternoon from two to four o'clock. Professor JOHNSTON.

MATERIA MEDICA CLINIC

The professor of materia medica will hold a clinic every Thursday from 2 to 4 P. M. At this clinic a member of the senior class is requested to elicit from the patient the family and personal history; the sensations; the modalities and all concomitant symptoms. He is then required to arrange these symptoms, point out the characteristic ones and suggest a remedy. The other members of the class are also required to suggest a remedy giving their reasons for so doing from the group of symptoms which has been elicited by their classmate. The professor in charge will then differentiate between the remedies presented by the class, if there be more than one, and will determine the remedy to be administered. Professor ROYAL.

GYNECOLOGICAL CLINIC

During the senior and the junior years two hours each week are devoted to clinics at which the students are given special advantages in the examination and diagnosis of the various diseases and injuries of the genital organs of women and assist at the various operations. The addition of this clinic to the course of instruction is of great advantage as the number of students admitted to the same gives all present an opportunity of seeing each step in the work and thereby becoming entirely familiar with the same. Friday from 1:30 to 3:30 P. M. Professor BECKER.

OBSTETRICAL CLINIC

By special appointment obstetrical clinics are held, to which senior and junior students are admitted. Senior students are given an opportunity of diagnosing the foetal presentations and observing the mechanism and conduct of the various stages of labor. By special arrangement with the board of regents patients wanting a home prior to their confinement and proper medical attendance during the same may avail themselves of this clinic free of charge and at the same time be given all the privacy and comforts of the homes usually provided for this special class of cases.

Anyone desiring information regarding the same is asked to correspond with the professor in charge. Professor BECKER.

EYE, EAR, NOSE AND THROAT

Clinical instruction is a most important part of the work in this department. Here is where the student "learns to do by doing." He is required to question the patient, eliciting symptoms sufficient for a diagnosis. This made, with the assistance of the other members of the class, he is then required to suggest a remedy and outline the treatment. He is permitted to perform minor operations and give treatments in catarrhal conditions of the eye, ear, nose and throat under the supervision of the head of the department.

With large clinics, which afford an opportunity to become familiar with many pathological conditions and the instruction of such a practical nature, the student becomes very proficient by the time he has completed his medical course.

Two clinics are held each week during the school year; the one on Tuesday at one o'clock is conducted in the amphitheatre into which all classes of eye, ear, nose and throat cases are received; the other meets on Friday at three o'clock in the basement clinic-room for ear, nose and throat treatments. Sub-clinics will be called at any time for emergency cases. Professor BYWATER.

PEDIATRICS

Children's clinics will be held on Monday. At these

clinics the seniors are expected to examine the patients, diagnose the diseases, prescribe the proper remedies and familiarize themselves with the treatment of this class of patients which will constitute a large and important part of their future practice. Dr. HAZARD.

ADMISSION OF PATIENTS

Medical and surgical treatment are free for patients entering the general clinic. Hospital care is furnished for $5.00 to $20.00 per week.

Correspondence with reference to admission to the clinics or hospital should be had with the professor having charge of the particular clinic, or with W. L. Bywater, M. D., the director of the hospital. Arrangements can be made for the reception of a limited number of obstetrical cases *only* between the 15th of September and 15th of April.

DISPENSARY

In connection with the clinic a dispensary has been opened, where the clinical assistants, under the direction of the faculty, prescribe for and visit out-patients, and attend such cases of obstetrics as apply. The dispensary is growing in patronage and influence, and has become a highly important and profitable portion of work, affording at once material for the clinics and practical instruction to the attendant.

REQUIREMENTS FOR GRADUATION

1. The candidate must be not less than twenty-one years of age.
2. Moral character must be known to be unexceptionable.
3. The time of study must include attendance upon at least four full courses of lectures, the last of which must be taken in this institution. The time occupied by each of the four courses of lectures shall be not less than twenty-eight weeks, and no two of the four courses shall be within the same year.
4. The deportment during the term must have been unexceptionable.
5. Attendance upon all lectures, clinics, and other in-

struction in the course must have been in accordance with the requirements of the college.

In case of failure to pass any of the examinations the student may be re-examined at the opening of the next session. If he fail in this second examination he will be allowed to present himself for re-examination only after attendance upon another course of lectures.

Students of the senior class who are candidates for the degree of Doctor of Medicine must, before May first, present to the secretary of the faculty a certificate of legal age and of good moral character, also the receipts from the treasurer of the board of regents showing that all fees have been paid.

TUITION FEES

See pages 62-63.

HOMEOPATHIC ALUMNI ASSOCIATION

The Alumni Association held its twelfth annual meeting at the college building, April 1, 1904, at which time the following officers were elected:

President—F. J. Becker, M. D., Iowa City.

Vice President—C. M. Morford, M. D., Toledo.

Secretary—Clara M. Hazard, M. D., Iowa City.

Treasurer—W. H. Woltman, M. D., Iowa City.

Executive Committee—PRESIDENT, SECRETARY and TREASURER.

Almuni are urged to send their names to the secretary to be enrolled as members. A small admission fee is required, the funds so procured to be devoted to the hospital according to a vote taken at the last meeting. Alumni are requested to keep the secretary informed of change of address.

Any further information may be obtained by addressing Geo. E. MacLean, Ph. D., LL. D., President of the University, or W. L. Bywater, M. D., Secretary of the Homeopathic Medical Faculty, at Iowa City, Iowa, or George Royal, M. D., Dean of the College, at Des Moines, Iowa.

COURSES OF INSTRUCTION

First Year

Histology
Physiology
Anatomy
Chemistry—organic and analysis
Organon
Homeopathic pharmacy
Materia medica
Minor surgery

Second Year

Physiology
Anatomy
Physiological chemistry
Pathology
Materia medica
Physical diagnosis
Surgical emergencies
Clinics

Third Year

Toxicology
Rhinology and laryngology
Surgical emergencies, continued
Principles and practice of surgery
Theory and practice of medicine
Bacteriology
Obstetrics
Gynecology
Dermatology
Materia medica
Genito urinary diseases
Clinics

Fourth Year

Pedology
Ophthalmology and otology
Materia medica and therapeutics
Obstetrics—continued
Gynecology—continued
Principles and practice of surgery—continued
Theory and practice of medicine—continued
Medical jurisprudence
Insanity
Electricity
Venereal diseases
Clinics

SCHOOL FOR NURSES

A training school for nurses has been established by the board of regents, the complete course covering three years. The first year is devoted to preliminary studies fitting the pupil for the active work, that is, as nurses in the hospital. Candidates for admission to the training school must be not under twenty nor over thirty years of age, must have a common school education, and must make a written application to the superintendent on forms prepared for the purpose and furnished on application. No other examination is required. If admitted, their first month will be probationary, and if the work has been satisfactory they will be entered upon the roll as "freshman nurses," and receive board, lodging and laundry. Vacations are given, during the year, at least, one month out of twelve, with additional vacation at the discretion of the superintendent. On admission the pupil will be required to agree in writing, over signature, to observe the rules and regulations of the hospital. The instruction during this year is largely didactic, together with some practical work and recitations. Examinations for promotion to the junior year will be held in May. During the junior or second year in addition to their practical work, the nurses will have three recitations each week, and in the third year two recitations each week, also special topics for essays will be arranged. During the second year the nurses will receive $8 a month for personal expenses, with an increase to $10 for the third year. Those who complete the three years course will receive a suitable certificate signed by the president of the University, the secretary of the board of regents, the director, and the superintendent of the hospital. The graduating exercises occur in connection with those of the University. For further information address the Superintendent, Homeopathic Hospital of the University.

Specimen Programme of the College of Homeopathic Medicine State University of Iowa.

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physiol'gy	Histology	Physiol'gy	Histology	Histology Recitation	Anatomy
9 to 10	Chemistry	Physiol'gy	Chemistry	Anatomy	Histology	Minor Surgery
10 to 11	Anatomy	Anatomy	10 to 11 *Chemical Laboratory*	Organon	Chemistry	
11 to 12						
1 to 2	1:00 to 3:00 *Histologic'l Laboratory*	1:00 to 3:00 *Chemical Laboratory*		1:00 to 3:00 *Histologic'l Laboratory*	Materia Medica	
2 to 3						
3 to 4	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	
4 to 5	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anotomical Laboratory*	*Anatomical Laboratory*	

SOPHOMORE YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Physical Diagnosis	Anatomy		Pathology	Anaesthesia	
9 to 10	Pathology Recitation	Physiological Chemistry	Physi'logy	Physi'logy	Physiological Chemistry	9:30 to 12 Surgical Clinic
10 to 11	Physi'logy Recitation	Surgery	Anatomy	Anatomy	Anatomy	
11 to 12	Surgery			Materia Medica		
1 to 2	1:00 to 3:00 *Physiological Chemical Laboratory*	1:00 to 3:00 *Patheological Laboratory*	1:00 to 3:00 *Physiological Laboratory*		Materia Materia	
2 to 3					Materia Medica Recitation	
3 to 4	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	3:15 to 5:45	
4 to 5	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	*Anatomical Laboratory*	

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Otology	Surgery	Ophthal-mology	Materia Medica	Pathology	
9 to 10	Practice		Practice		Surgery	
10 to 11	Gyne-cology	Surgery		Pathology	Practice	9:30 to 12 *Surgical Clinic*
11 ta 12	Surgery	Obstetrics	Toxi-cology	Materia Medica	Pathology Recitation	
1 to 2	1:00 to 3:00 *Path'logic'l Laborato.y*	*Eye, Ear Nose and Throat Clinic*	Materia Medica			
2 to 3			*Medical Clinic*	*Materia Medica Clinic*	*Gynecolog-ical Clinic*	
3 to 4	Surgery	Practice				
4 to 5				*Ear, Nose and Throat Clinc*		

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'sd'y	Thursday	Friday	Saturday
8 to 9	Otology	Surgery	Ophthal-mology	Materia Medica		
9 to 10	Practice		Practice	Materia Medica	Dermatol-ogy	
10 to 11	Pediatrics	Surgery	Clinical Micro-scopy		Surgery	9:30 to 12 *Surgical Clinic*
11 to 12	Surgery			Obstetrics		
1 to 2	Gyne-cology	Eye, Ear, Nose and Throat Clinic	Materia Medica			
2 to 3	Surgery		*Medical Clinic*	*Materia Medica Clinic*	*Gynecolog-ical Clinic*	
3 to 4	Surgery	Practice				
4 to 5					*Ear, Nose and Throat Clinic*	

THE COLLEGE OF DENTISTRY

THE COLLEGE OF DENTISTRY

MEMBERS OF THE FACULTY AND OTHER OFFICERS

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., PH. D., LL. D.,
President of the University.

FRANK THOMAS BREENE, D. D. S., M. D.,
Professor of Operative Dentistry and Special Therapeutics.

WILLIAM S. HOSFORD, B. A., D. D. S.,
Professor of Prosthetic Dentistry, Crown and Bridge Work, and Dean of the Faculty.

ERNEST A. ROGERS, D. D. S.,
Professor of Regional Anatomy, Clinical Dentistry, and Superintendent of Clinics.

WILLIAM J. BRADY, D. D. S.,
Professor of Orthodontia.

ELBERT WILLIAM ROCKWOOD, B. S., M. A., M. D., Ph. D.,
Professor of Chemistry and Metallurgy.

CHARLES SUMNER CHASE, B. A., B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

WILLIAM ROBERT WHITEIS, B. S., M. S., M. D.,
Professor of Histology and Embryology.

JOHN T. MCCLINTOCK, B. A., M. D.,
Professor of Physiology.

GEORGE V. I. BROWN, M. B., M. D., D. D. S., C. M.,
Professor of Dental Pathology and Oral Surgery.

HENRY ALBERT, B. S., M. S., M. D.,
Professor of Pathology and Bacteriology.

HENRY JAMES PRENTISS, M. E., M. D.,
Professor of Anatomy.

CHARLES CLEVELAND NUTTING, B. A., M. A.,
Lecturer on Comparative Odontography.

CHARLES NOBLE GREGORY, B. A., M. A., LL. B., LL. D.,
Lecturer on Dental Jurisprudence.

HENRY MORROW, JR., D. D. S.,
Lecturer and Demonstrator of Prosthetic Technology.

ROSCOE H. VOLLAND, M. Di. D. D. S.,
Lecturer on Dental Anatomy and Demonstrator of Operative Technic.

ELMER ANTHONY SCHRADER, D. D. S.,
Demonstrator in Operative Clinic.

JOHN P. MULLIN, M. D.,
Demonstrator of Anatomy.

ALDEN ROBBINS HOOVER, B. S.,
Instructor in Histology and Embryology.

WILLIAM EVERETT SPENCE, D. D. S.,
Demonstrator in Prosthetic Dentistry.

ANFIN EGDAHL, B. S., M. D.,
Instructor in Pathology and Bacteriology.

CHARLES L. BRYDEN, E. M., B. S. in Chem.,
Instructor in Metallurgy.

CHARLES THAYER LINCOLN, B. S.,
Instructor in Chemistry.

FREDERIC P. LORD, B. A., M. D.,
Demonstrator of Anatomy.

RUDOLF ERNST KLEINSORGE,
Assistant Instructor in Physiology.

EDWIN E. HOBBY, B. S., M. D.,
Assistant Demonstrator of Anatomy.

CLARENCE HENRY HANSON, B. S.,
Scholar in Physiology.

LAWRENCE ALBERT QUAIFE, B. PH.,
Scholar in Pathology and Bacteriology.

EDWARD ELLSWORTH BLYTHE, B. PH., M. D.,
Assistant in Histology.

JOSEPH MAXWELL CADWALLADER,
Prosector in Anatomy.

JENS CHRISTIANSEN, M. Di.,
Assistant in Pathology and Bacteriology.

HERBERT MORGAN DECKER, D. D. S.,
Assistant in Pathology and Bacteriology.

WALTER HENRY FOX,
Senior Assistant Demonstrator in Anatomy.

ROBERT LINCOLN GLASE,
Prosector in Anatomy.

RAY EDWIN HALL,
Laboratory Assistant in Materia Medica.

DIEDRICH JANSSEN MEENTS, B. S.,
Assistant in Pathology and Bacteriology.

CARL ERNEST RICHARDS,
Assistant in Pathology and Bacteriology.

ADELBERT W. STARBUCK, D. D. S.,
Assistant in Histology.

HELEN BASCHNAGEL,
Clerk of the Infirmary.

EVAHN RUSSELL WALKER, B. S.,
Assistant in Physiology.

ARTHUR DANIEL WOODS,
Junior Assistant Demonstrator in Anatomy.

CLARISSA J. JOY,
Assistant Clerk in the College of Dentistry.

W. M. VERMILLION,
Custodian.

THE COLLEGE OF DENTISTRY

This college (first called the Dental Department) was organized in response to an earnest request from the profession throughout Iowa, acting through the Iowa State Dental Society. The department was organized in 1881 and held its first session during the year 1882-1883 and has been in continuous operation since. The college enjoys the singular advantage of being a component part of a university and located on the same campus with the other colleges. This gives the student the advantage of instruction in great University departments, the use of the laboratories, libraries and museums of the whole University, as well as a wide acquaintance with the faculties and students of the several colleges of the institution.

BUILDINGS AND EQUIPMENT

In 1894 a large building was erected for the exclusive use of the college. The building has since been elaborately equipped for dental teaching and is now unsurpassed in convenience.

The college is so equipped as to enable each student to have his own quarters throughout the year. He has his own locker and tables in the laboratories, his seat in the lecture rooms, and his chair and cabinet in the clinic rooms, which are reserved for him at all times.

The building is well lighted throughout, there being no dark rooms, while absence of the smoke and dust of a large city permits full use of the eyes without injury. The laboratories have a large window at each table with lockers beneath for instruments. These laboratories have all the usual appliances including electric lathes for polishing. The lecture rooms are ample and seated with comfortable opera chairs.

The operating rooms are exceptionally well lighted, and .provided with Wilkerson and Columbia chairs, each chair having a fountain spittoon with saliva ejector, and with a Harvard cabinet for instruments. Each chair is

also provided with an overhead electric light for dark days or unavoidably late work. This splendid equipment permits of much better and more comfortable work than where the student is compelled to keep all his instruments in a carrying case set upon a small table at the chair.

Porcelain work receives much attention and a number of porcelain furnaces of the latest pattern have been installed. Porcelain baking can be carried on at any time without inconvenience or delay. Such apparatus as electric cautery, root-driers, mouth lamps, and gold annealers are also provided.

A special library of dental and surgical works is maintained in the building for the use of students at all times. This is a department of the general library of which dental students have all the privileges.

The college museum is large and valuable, comprising the celebrated Patrick collection illustrating comparative dental anatomy, with many other rare and valuable specimens pertaining to dentistry. Additions to the museum are being constantly made and our friends are urged to make contributions.

The new laboratories for the study of anatomy, physiology, histology, and bacteriology are now ready and in daily use. These buildings are equipped with every modern appliance for the study of these branches, and are models of convenience and utility.

The method of instruction is by lectures, demonstrations, recitations, and the actual performance of both laboratory and clinical work by the student himself under the supervision of experienced demonstrators. A systematic and thorough preliminary training is given through the technic work of the laboratories, thus fitting the student as far as possible for the practical work of the infirmary. The clinical material is abundant and of exceptional quality, being composed of clean and intelligent patients and affording opportunity for every variety of work, especially of the higher grades.

The College of Dentistry is a member of the National Association of Dental Faculties, and abides by all its rules and regulations. The college also observes all the re-

quirements of the National Association of Dental Examiners. The diploma of the College of Dentistry is legally recognized in every state of the United States, and in every foreign country where an American diploma confers any legal rights or privileges.

LENGTH OF COURSE

The course extends through three years of thirty-six weeks each, the years being divided into semesters of eighteen weeks each, and each semester into two quarters of nine weeks. The twenty-fifth annual session begins September 21, 1905, and ends June 13, 1906.

ADMISSION REQUIREMENTS FOR 1906-1907

Special Notice

The following educational requirements, which have been established by the National Association of Dental Examiners for entrance to all dental colleges, meet with the hearty approval of this University and notice is hereby given that applicants for admission to the 1906-1907 session will be expected to comply with these requirements: "The minimum preliminary requirement for matriculation or registration shall be graduation from an accredited high school or its full equivalent. All examinations or credentials or equivalents to be placed in the hands of an acceptable appointee of the state superintendent of public instruction. When not otherwise provided for by law, said requirements are to be inaugurated not later than the beginning of the school year—1906-1907." Prospective students will please take notice of this important change.

ADMISSION REQUIREMENTS FOR 1905-1906

The following requirements will be in effect for the college year 1905-1906.

Each applicant for admission must present satisfactory evidence of good moral character. Students of both sexes are admitted on equal terms.

The minimum preliminary educational requirement for the session of 1905-1906 shall be a certificate of admission to the third year of a high school or its equivalent, as required by the National Association of Dental Faculties. All matters pertaining to the preliminary requirements or examinations are placed in the hands of the university examiner, Mr. H. C. Dorcas, who is also the appointee of the State Superintendent of Public Instruction.

Graduates or matriculates of reputable universities or colleges, and graduates of state normal schools or accredited high schools and academies, may be admitted without examination to the first year class on presentation of diplomas or certificates of honorable dismissal.

Graduates of other high schools or academies whose courses of study are approved by the University, or pupils who have completed *at least two (2) years* of work in such schools or in accredited schools, will be admitted without examination on presenting certificates, signed by the superintendent or the principal, and containing specific statements as to the amount of work done in each study. Two years of work must include *sixteen (16)* preparatory credits, *a preparatory credit being defined as the equivalent of one high school study five days a week during a semester, eighteen weeks in length, on the basis of four studies a day.* These preparatory credits must be certified by the superintendent or the principal of the school from which the applicant comes, on a blank form which may be obtained by addressing the President of the University or the Dean of the College. This blank should be made out and returned to the university examiner *as early in the summer as possible.*

Extract from Code of Rules of the National Association of Dental Faculties Regulating the Admission of Students.

LIMITING THE TIME FOR THE RECEPTION OF STUDENTS

No member of this Association shall give credit for a full course to students admitted later than ten days after the opening day of the session, as published in the announcement. In case one is prevented by sickness, properly certified to by

a reputable practicing physician, from complying with the foregoing rule, the time of admission shall not be later than twenty days from the opening day.

That students in attendance at colleges of this Association, to obtain credit for a full term, must be and remain in attendance until the close of the session.

Students from other reputable dental colleges, students from colleges in foreign countries, and graduates in medicine may be received into advanced classes, subject to the following rules of the National Association of Dental Faculties, and the rules of the faculty of the College of Dentistry.

ADMISSION TO ADVANCED GRADES ON CERTIFICATES

The colleges of this Association may receive into the advanced grades of juniors and seniors only such students as hold certificates of having passed examinations in the studies of the freshman or junior grades respectively. All students who have successfully passed their examinations for advanced standing shall have their certificates given or mailed to them within *thirty days* after such examinations shall have been completed. Such certificates to be pledges to any college of the Association to whom the holders may apply, that the requisite number of terms have been spent in the institutions by which the certificates were issued.

STANDING OF STUDENTS HOLDING CERTIFICATES FROM DENTAL COLLEGES IN FOREIGN COUNTRIES

In case of persons holding certificates from colleges of dentistry in foreign countries, they shall be required to furnish properly attested evidence of study, attendance upon lectures, examinations passed satisfactorily, etc., just as is required of students coming from our own institutions.

ADVANCED STANDING AND ADMISSION OF GRADUATES OF MEDICINE

Advanced standing in the classes of members of this Association shall not be given students except in the following instances:—

First. Where students shall have taken a full course in a school a member of this Association, or one especially recognized, and shall have successfully passed the required examinations.

Second. When the student shall present evidence of graduation from a reputable medical college, he may receive one year's advanced standing.

A graduate of a recognized dental college, who applies to a college of this Association for the degree of Doctor of Dental Surgery or Doctor of Dental Medicine, shall complete one full course of instruction in said college and comply with all other requirements of the senior class.

All other applicants for admission must *pass examinations* in the subjects designated in the programmes of entrance examinations given below, or other subjects which are real equivalents.

Applicants presenting certificates from accredited schools for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

It is urged that anyone expecting to enter the College of Dentistry next September send all necessary credentials to the university examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean for signature.

ENTRANCE EXAMINATIONS

Any person expecting to enter the College of Dentistry next September, should be careful to learn before the opening of the University exacty what entrance examination he will be required to pass. He can learn this by addressing the president of the University, the dean of the College of Dentistry, or the university examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the university examiner, who will give him all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the University. For *a series* of examinations covering two or more subjects, a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Tuesday, September 19, and Wednesday, September 20, 1905

Arithmetic,	1 credit,	Monday,	1:30 p. m.

English and English Grammar,	2 credits,	Tuesday,	4:30 p. m.
United States history,	1 credit,	Tuesday,	1:30 p. m.
Civil government,	1 credit,	Tuesday,	2:30 p. m.
Algebra, through quadratics,	3 credits,	Wednesday,	8:00 a. m.
Physical geography,	1 credit,	Wednesday,	11:00 a. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.
Physiology,	1 credit,	Wednesday,	4:00 p. m.

SECOND SEMESTER

Friday, February 9, and Saturday, February 10, 1906

The examinations will be held at the same hours as in the programme above, reading Friday and Saturday for Tuesday and Wednesday, respectively.

COMBINED COURSES

Arrangements have been made with the faculty of the College of Liberal Arts whereby a student may receive credit in one college for work done in another, thereby obtaining the two degrees in six years instead of seven as would be required if each degree were taken independently. These combined courses are especially recommended to all students who expect to take up the profession of dentistry.

For a statement of the combined courses see pages 111–112.

COMBINED COURSE LEADING TO THE DEGREES OF M. D. AND D. D. S.

Students may arrange to obtain the degrees of Doctor of Medicine and Doctor of Dental Surgery in six years. Details must be arranged by the faculty.

If it is desired to combine the dental work with the work of the College of Medicine it will be necessary for the student to present thirty preparatory credits to meet the requirements of that college. If on the other hand the student elects to combine his dental work with the work of the College of Homeopathic Medicine he will be required to present the requirements of that college, viz., twenty-

four credits. Students contemplating taking either of these courses should consult the announcements of the colleges of medicine.

SCHEDULE OF STUDIES

A tentative curriculum for the three year course of instruction is here given, subject to modification as may seem expedient.

FRESHMAN YEAR

Anatomy
Dissection
Physiology
Chemistry
Chemical laboratory
Histology
Histological laboratory
Materia medica (2d semester)
Medical Latin (optional)
Dental anatomy
Prosthetic technic
Operative technic

JUNIOR YEAR

Anatomy
Dissection
Physiology
Materia medica (1st semester)
Special (2d therapeutics semester)
Metallurgy
Metallurgical laboratory
General pathology (2d semester)
Operative technic
Operative dentistry
Prosthetic dentistry
Prosthetic technic
Porcelain techinc
Orthodontia technic
Infirmary (2d semester)
Bacteriology (1st semester)
Special histology

SENIOR YEAR

Operative technic
Prosthetic dentistry
Clinical dentistry
Orthodontia
Regional anatomy
Special therapeutics
Special pathology
Oral surgery
Comparative odontography
Physical diagnosis
Hygiene
Dental jurisprudence
Special lectures
Infirmary

All students will be required to pass an examination on the studies pursued in their respective courses before leaving the University at the close of each session. No

student who has failed in two of the studies of this course will pass to advanced standing unless these studies are made up before the second week in January of the succeeding session. No certificates are given to any who fail in more than two branches; except a time certificate stating the actual time of attendance.

Examination in conditioned studies will take place the following session, namely, the fourth week in September and the second week in January.

OUTLINE OF THE PLAN OF INSTRUCTION

DEPARTMENT OF OPERATIVE DENTISTRY AND DENTAL THERAPEUTICS

PROFESSOR BREENE; DR. ROGERS, DR. VOLLAND, DR. SCHRADER

The course in operative dentistry, including operative technic and dental anatomy, extends through the freshman, junior and senior years. The clinical facilities for instruction in this department give the student an opportunity to receive thorough drill of a practical kind that can be utilized in the practice of dentistry.

To restore teeth which have become diseased or deformed by formative chemical or mechanical means to a normal or functional condition is the ideal of operative dentistry.

To facilitate the bringing of the student to the point of recognizing and accomplishing this ideal of dental art, instruction in the detail of all operations upon the teeth is given in the technical laboratory, infirmary, and by lectures.

The course in operative technic is supplementary to lectures and laboratory work in dental anatomy of the freshman year. It is a preliminary training for clinical dentistry procedure. Every effort is put forth by the instructors in charge to make this work practical.

Each student carves from bone or celluloid blocks a number of teeth which are mounted in dummy jaws. Cavities of decay are outlined on these teeth. The student is required to prepare cavities for insertion of fillings, following the modern methods of cavity preparation.

Fillings of gold, amalgam, cement and guttapercha, also inlays of gold and porcelain, are introduced in cavities formed. Special attention is given to restoration of

type and contact in relation to approximation and apposition. Thus the objective results (functional improvement) are fully demonstrated.

OUTLINE OF LECTURE COURSE

History of dentistry, care of patients, examination of teeth, use and disinfection of instruments and other appliances, removal of deposits and cleaning of the teeth, general hygiene of the mouth, methods of securing separation of teeth, preparation of cavities, selection and characteristics of filling materials, inlays—gold and porcelain.

Junior and senior years, first and second semester, three hours each week. Professor BREENE.

For information as to the plan of instruction in dental therapeutics, see department of materia medica and therapeutics.

DENTAL ANATOMY AND OPERATIVE TECHNIC

LABORATORY TECHNIC—In the laboratory work each student is required to carve from blocks of bone teeth of each class: i. e., incisors, cuspids, bicuspids and molars, and to mount them in models on an articulator; and to make free hand drawings of the individual teeth; to make various dissections of the natural teeth for the study of the pulp chambers and root canals. Dr. VOLLAND.

Freshman year, first semester. Four laboratory periods each week.

INSTRUMENTATION—Instrument nomenclature; instrument making; study of enamel cleavage and the cutting of tooth structure, using extracted teeth. Dr. VOLLAND.

Freshman year, second semester. Two laboratory periods each week.

CAVITY PREPARATION AND FILLING—Study of filling materials and appliances used in operative work. Preparation of cavities and insertion fillings. Study of pulp chambers and canals, and insertion of root-canal fillings. Dr. VOLLAND.

Junior year, first semester. Four laboratory periods each week.

DENTAL ANATOMY LECTURES

Throughout the year a course of lectures is given which is supplemented by the course in laboratory technic. A detailed study of the surfaces, markings, development, occlusion, pulp cavities, and abnormal formations of teeth constitute the course of lectures on the subject. The student's attention is especially directed toward an understanding and application of the practical principles of tooth form and occlusion. The student makes free hand drawings of teeth and pulp cavities as discussed. A large selection of specimens, charts, models, and the stereopticon are used to illustrate the lectures. Dr. VOLLAND.

Freshman year; one hour a week.

DEPARTMENT OF PROSTHETIC DENTISTRY

PROFESSOR HOSFORD; DR. MORROW, DR. SPENCE

The work of this department is given as a graded course extending through the freshman, junior and senior years and will be divided into technical, didactic and clinical courses.

1. FRESHMAN PROSTHETIC DENTISTRY—A didactic and laboratory course including the principles and methods of taking impressions, pouring models. The making of dies and counter dies. The making of different styles of dentures on bases of vulcanite, aluminum and goldine. Vulcanizing, repairing and finishing of cases made. Laboratory work nine hours each week. Dr. MORROW.

First semester.

2. a. A didactic and laboratory course including all the practical steps in the making of a full upper and lower denture; the practical study of articulation, occlusion, and the selection and arrangement of the teeth.

b. CROWN WORK—Preparation of the roots of extracted teeth for bands, fitting bands, carving cusps in plaster and other materials; making dies, swaging cusps, soldering and the finishing of crowns. This course will include the different methods of making shell and porcelain crowns.

Laboratory work nine hours a week; one lecture a week. Dr. MORROW.

Second semester.

3. a. JUNIOR PROSTHETIC DENTISTRY—A didactic and laboratory course embracing the principles and their applications in the making of various kinds of crowns and bridges on models secured from practical cases. A laboratory course in the making of porcelain crowns including the manipulation of porcelain, use of the electric and gasoline furnaces, and the baking of different porcelains.

Laboratory periods twelve hours a week; one lecture a week. Dr. MORROW.

First semester.

3. b. The work of the second semester consists of actual clinical experience applying the principles and methods taught in the didactic and laboratory work of the first and second years. This practical course is broadened by the lecture course on the clinical work of the students. Infirmary twenty-seven hours each week; one lecture a week. Professor HOSFORD, Dr. SPENCE.

Second semester.

4. SENIOR PROSTHETIC DENTISTRY — A didactic, recitation, and clinical course for senior students from September to June. Each student is required to perform a certain amount of prosthetic work in the infirmary to prove his or her efficiency in this subject. The large clinical attendance furnishes every facility to the student to meet every requirement.

Two lectures and one recitation each week, for thirty-six weeks.

INFIRMARY HOURS, twenty-seven each week. Professor HOSFORD, Dr. SPENCE.

DEPARTMENT OF ORAL PATHOLOGY, ORAL SURGERY, AND HYGIENE

PROFESSOR BROWN

ORAL SURGERY

Operative, therapeutic and mechanical treatment of diseases and deformities of the mouth, face, and jaws will

be considered with careful distinction between those affections best suited for reference to dentists, medical practitioners, and general or oral surgeons.

The divisions and special features of the courses of study in this department are as follows:

JUNIOR STUDENTS

1. GENERAL CONSIDERATIONS—Health, disease, pulse, respiration, conditions favorable and unfavorable to operation, shock, asepsis, preparation of patient for operation, care of hands, instruments, dressings, etc.

2. WOUNDS—Varieties and treatment, bandages, dressings, processes of tissue repair. Hemorrhage, different forms and methods of checking.

3. LIGATURES AND SUTURES—Various materials used, methods of preparation and application.

4. SURGICAL ASPECT of inflammation, suppuration, abscess, ulcer, necrosis, caries, gangrene.

5. ASEPTIC FEVER, septic fever septicemia, pyemia. Pernicious anemia, leucothemia, digestive and nutritive disturbances.

6. ERYSIPLAS, tetanus.

7. DISEASES OF THE MUCOUS MEMBRANE. Stomatitis, leucoplakia, gangrena oris, specific disease, mucous cysts, etc.

SENIOR STUDENTS

1. REVIEW OF SUBJECTS treated in the junior year.

2. STUDY OF DIFFERENTIAL DIAGNOSIS through which the true etiologic factors of many more or less obscure pathologic conditions may often be determined, and quite frequently found to have their origin from oral disturbances not difficult to relieve, and thus by comparatively simple measures, make it possible to give almost incalculable benefit to patients.

3. AFFECTIONS OF THE MAXILLAE—Periostitis, necrosis, tuberculosis, syphilis, fractures, dislocation, anchylosis. Diseases of the maxillary sinus.

4. DISEASES OF THE SALIVARY GLANDS—Parotitis, ptyalism, inflammatory conditions due to calculi, fistulæ, ranula.

5. NEURALGIA, epilepsy, muscular, spasm, paralysis, neurasthenia and other neurosis, related to tri-facial irritation.

6. HARE LIP, cleft palate and speech defects.

7. TUMORS—Practical study of those malignant and non-malignant growths which most frequently affect the jaws and mouth.

All of the foregoing pathologic conditions are comprehended within the special field to which the practice of the instructor is limited. Experience in hospitals having given a somewhat extensive opportunity for observation, it is possible to deal with each division from the standpoint of actual practice. Blood counts, microscopic sections of tissue, tumors, etc., and other data necessary for illustration and reference have been preserved from patients treated. Thus it is believed more benefit will accrue to the student than is usually possible where books alone must be depended upon for guidance.

Large numbers of casts of mouths of patients, from the newly born to adult and middle life, having congenital or acquired clefts of both hard and soft palates, hare lip deformities, double and single in almost every degree, as well as photographs and phonographic speech records before and after operative treament will be used to convey correct ideas of the possibilities and limitations in this direction.

ORAL PATHOLOGY

The importance of this study will be brought directly to the members of the class through illustration with photo-micrographs prepared for use in the stereopticon, and microscopic sections showing a very considerable number of pathologic changes in the histologic structure of the organs and tissues, within or intimately associated with the special operative field of dental, and oral surgery. Many of these have been taken from cases of known history, and are therefore best calculated to impress the essentially practical features of the subject. Skiagraphs, charts and drawings will also be used to supplement didactic lectures and clinical study of patients.

DISEASES OF THE DENTAL ORGANS

TEETH—Perversions of eruptive developmental processes. Dental caries, erosion and abrasion, discoloration.

DENTAL PULP-HYPEREMIA, pulpitis, devitalization, gangrene, secondary dentine, pulp modules, calcareous degeneration, polypi.

PERICEMENTUM—Gingival and calcic inflammations, pericementitis, dento-alveolar abscess, pyorrhea alveolaris, hypercementosis, absorption of roots of permanent teeth. Pathologic conditions of other organs and tissues of the mouth and jaws will be treated in the order outlined in the oral surgery course.

ORAL HYGIENE

Prophylaxis in relation to healthful preservation of the dental organs and tissues of the mouth, antiseptic mouth washes, tooth powders, resistance of oral secretions to germicidal agents and subsequent difficulty in overcoming mouth bacteria, brushes, etc., will be given full consideration as well as ample illustration.

The purport of further clinical and didactic study will be to establish as the basal principle of this course, the fact that care of the buccal cavity is properly an essential part of all sanitation. The frequent intimate relation between pathologic affections of the eye, ear, nose, throat, and the stomach with diseases of the mouth, as well as disorders of the nervous and circulatory systems having similar association, must in the light of recent advances in this direction, be fully studied with a view to effective prevention of disease, whether local or general in its manifestation.

DEPARTMENT OF ORTHODONTIA

PROFESSOR BRADY

The course in this branch begins in the middle of the junior year, and continues through the entire senior year, the work being strictly graded and the course progressive throughout. The work of the junior year consists mainly

of a preliminary technic course with lectures on the foundation topics of normal occlusion and classification of malocclusion for diagnosis.

The work of the senior year consists of practical work in the infirmary, with lectures on the causes and treatment of malocclusion and the conduct of orthodontia practice both as a specialty and in connection with general practice. All practical work is under the direct supervision of the professor in charge. The supply of clinical material is always more than can be cared for, allowing selection of suitable cases. Each senior student must treat at least one practical case.

1. ORTHODONTIA TECHNIC—A combined laboratory and lecture course upon normal occlusion and the diagnosis of malocclusion, with the technique of models and appliances, including retaining appliances. This number occupies the entire second semester of the junior year. Instruction is given through one lecture and two laboratory periods a week.

2. PRACTICAL ORTHODONTIA—A combined lecture and clinical course in the physiology of orthodontia, the causes and treatment of malocclusion, the relation of orthodontia to rhinology and oral surgery. One lecture a week with practical instruction in the infirmary from 3 to 5 daily throughout the senior year.

DEPARTMENT OF CLINICAL DENTISTRY AND REGIONAL ANATOMY

PROFESSOR ROGERS

The instruction in this department is given by means of lectures and special clinics.

1. These lectures treat of the professional relation which should exist between the practitioner and his patients and all matters which tend toward truest success in the dental profession. Among the subjects discussed are the following: location, equipment of an office, securing of patronage, ethics, management of patients, personal habits, business methods, fees, credit, collections, citizenship, etc.

2. The special clinics which are given from time to

time afford the students opportunity for seeing and diagnosing the more difficult cases for treatment from a clinical view point. The large number of cases which may be selected from the infirmary give excellent advantages along this line. Seniors, one hour a week first and second semesters.

3. Regional Anatomy—Lectures and recitations. The instruction in regional anatomy is supplementary to the instruction in general anatomy. It includes a thorough study of the bones, muscles, bloodvessels, and nerves of the head and face, especially those intimately associated with the physiology and pathology of the dental organs. Lectures on blood and nerve supply to the teeth are illustrated by the stereopticon. Other lectures are illustrated by maps, charts and models, and by well prepared specimens of the head, jaws, teeth and nerves *in situ*.

Senior year, first semester and first quarter of second semester, one hour each week.

DEPARTMENT OF ANATOMY

Professor Prentiss; Dr. Hobby, Dr. Lord, Mr. Fox, Mr. Woods, Mr. Cadwallader, Mr. Glase

The freshman class on entrance is divided into three sections to accommodate itself to the three natural divisions of the body; viz., head and neck; upper extremity and thorax; and lower extremity and abdomen. The object of this division is to break the class up into small sections, that each student may receive individual instruction.

Each third of the class is assigned to one of the parts of the body, receiving the bones of that part. For one-sixth of the year it receives demonstrations on the osteology and arthrology of that part; the following sixth of the year being devoted to the study of the soft parts including the muscles, nerves, and arteries.

The sections then take up respectively the next third of the body until at the end of the year the entire body has been considered by each student. Lectures and quizzes enlarge upon the course.

The junior class covers the viscera of the body including the brain, thoracic viscera and abdominal viscera by means of lectures and quizzes. Special lectures and demonstrations are given by the professor of anatomy to the junior class upon the bones of the head, accessory sinuses, cranial nerves, blood supply of the head, etc., etc.

During the course in anatomy the students are required to make a dissection of the head and neck and extremity.

At the end of each year a practical and theoretical examination for advanced standing is held upon the work covered.

DEPARTMENT OF PHYSIOLOGY

PROFESSOR MCCLINTOCK; MR. KLEINSORGE, MR. WALKER, MR. HANSON

For a description of the work in Physiology see courses 1–8 on pages 348–351.

DEPARTMENT OF CHEMISTRY AND METALLURGY

PROFESSOR ROCKWOOD; MR. LINCOLN, MR. BRYDEN

For a description of the work in Chemistry and Metallurgy see courses 46, 48, 65b, 67b, on pages 352–355.

DEPARTMENT OF DENTAL MATERIA MEDICA AND THERAPEUTICS

PROFESSOR CHASE; PROFESSOR BREENE; MR. HALL

1. ORGANIC DENTAL MATERIA MEDICA—The course is introduced by definitions, and a discussion of routes and modes of administering drugs, dosage, classification of official preparations, and prescription-writing, including the subject of incompatibilities. Following such general topics, organic drugs are taken up in a natural order of grouping. Freshman year, second semester. Two lectures and one recitation each week. Professor CHASE.

2. ORGANIC AND INORGANIC DENTAL MATERIA MEDICA—The preceding course is completed, followed by the consideration of drugs of inorganic origin. As in course 1

the drugs will be grouped with reference to some dominant or characteristic action. Thus are grouped drugs affecting the nervous system, the heart and circulatory system, the respiration, etc. The prescription work of the preceding course is carried forward and perfected by means of exercises and drill in writing same. Toward the close of the semester a general review is given. Junior year, first semester. Two lectures and one recitation a week. Professor CHASE.

3. PHARMACOLOGY—In order to familiarize the student with the action of the more important drugs used in his profession a demonstration course in pharmacology will be given during the junior year. Mr. HALL.

4. DENTAL THERAPEUTICS—In addition to the foregoing the members of the junior class will be required to attend a special course in dental therapeutics wherein will be presented those drugs which are of special use to the practicing dentist. Junior year, second semester. One lecture each week. Professor BREENE.

5. DENTAL THERAPEUTICS—This course is a review of the work given in the junior year, with additional instruction in clinical therapeutics. This gives the student a thorough understanding of practical methods of treatment.

The application and prescribing of remedies for the prevention, as well as the cure of diseased conditions is demonstrated by the instructors in charge of the infirmary.

Senior year, first and second semesters. One lecture each week with recitations. Professor BREENE.

6. MEDICAL LATIN—Those who have had but little opportunity to study Latin previous to entering upon their dental education will be afforded an opportunity in this course for special drill, with the view to acquiring such a knowledge as must be in the possession of the accurate prescription-writer. It includes the work outlined in any elementary treatise of Latin, and, in connection with same, work in prescription-writing. In the first semester the grammar is specially studied. Therein are found those principles of Latin etymology and construction which are essential to an intelligent understanding of the terminology of pharmacy and dentistry. In the second semester

the study of the grammar is continued, special attention being given to the pharmacopoeial nouns and anatomical terms. The prescription is taken up, its definition, synthesis, formulæ, form, grammatical construction, language, and analysis being studied. A review of the entire work completes the course. First semester, freshman year. Two hours each week.

7. HYGIENE—A course of lectures upon this subject will be delivered during the junior year, in which will be discussed all matters pertaining to both public and private hygiene. The subject will be illustrated by means of maps and models showing different styles of machinery for filtration of potable waters—discussing also questions pertaining to their source, etc. Also the results of analyses of potable waters from private wells will be presented with their conclusions, etc. The results of analyses of food-stuffs will be given and all other matters affecting the public health. Professor CHASE.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

PROFESSOR WHITEIS; MR. HOOVER, DR. BLYTHE, DR. STARBUCK, MR. BOOTS

The courses in Histology and Embryology are described above, pages 355-357.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

PROFESSOR ALBERT; DR. EGDAHL, MR. BYRNES, MR. QUAIFE, DR. DECKER, DR. CHRISTIANSEN, MR. RICHARDS, MR. SCHENCK, MR. MEENTS

The courses in Pathology and Bacteriology are described on pages 361-365.

COMPARATIVE ODONTOGRAPHY

PROFESSOR NUTTING

A general view of the dental organs of animals affords many points of practical interest to the dental student, and throws light on some perplexing questions that arise in connection with peculiarities of the human teeth. Such a

view is afforded by this course of lectures. Particular attention is paid to the various mechanical contrivances by which Nature has met special dental problems. In addition to this general discussion of the teeth of animals, some attention is paid to the embryology and histology of these organs. A special feature of the course is a demonstration, by means of projection of the actual slides, of some obscure points regarding the vascular supply of the teeth and peridental membrane. This is made possible by means of a series of preparations by which sections of teeth, including the pulp and other soft structures, are made without decalcification.

The course is amply illustrated by specimens from the natural history museum, charts, and lantern slides.

Second semester, senior year.

DENTAL JURISPRUDENCE

PROFESSOR GREGORY

The state law regulating the practice of dentistry is fully discussed. The general principles of legal liability will be explained and suggestions are made as to the legal rights of the practitioner with reference to his compensation.

PRACTITIONERS' COURSE

This course is planned for the convenience and benefit of practitioners. It will be optional with those entering the course as to what studies they will pursue, and what methods in practical work they may take up. The curriculum will be arranged more especially to give a thorough course in pulp and abscess treatment and other pathological conditions of the oral cavity. In addition to this, detailed instruction will be given in bridge and crown work, continuous gum dentures, porcelain fillings, and in the methods of working metals by all the different operations which the practitioner is called upon to perform.

REQUIREMENTS FOR ADMISSION TO PRACTITIONERS' COURSE

Anyone in reputable practice may enter this course. Graduates of this college will be admitted on the payment

of the matriculation fee only. Graduates of other reputable dental schools will be admitted on the payment of the matriculation fee and $10.

A full corps of demonstrators in all subjects has been appointed to attend to the duties pertaining thereto. The service of several additional clinical instructors will be obtained during the session, each a specialist.

FEES FOR PRACTITIONERS' COURSE

Matriculation fee	$10.00
Tickets, including certificates	25.00
Laboratory fee	6.00
	$41.00

Other post-graduate work, such as porcelain, orthodontia, etc., may be arranged for upon application to the faculty.

DENTAL ASSISTANTS' COURSE

A training school for dental assistants has been authorized by the board of regents. The course will extend through one year of nine months, beginning and ending with the regular dental year. The fee for tuition is $15 for the course, of which $7.50 is payable on the date of registration, and the balance at the opening of the second semester. Students who have not previously matriculated will pay the regular matriculation fee of $10. Candidates for admission to this course must possess a common school education, and must present two letters of recommendation as to their capabilities, qualifications, and moral character. No other examination for admission will be required. This course will be both didactic and practical, thorough instruction being given in operative and prosthetic technic, therapeutics, pathology, and dental anatomy; there are also special lectures and work relative to the duties of an assistant both at the operating chair and in the laboratory.

An important additional feature of this course will be the special training of young women with a view to fitting them to perform the duties of dental assistant nurses.

In this new and promising field there is at present a demand for persons whose capabilities and training fit them for the work. The remuneration is good and the employment of a much less ardous character than that required of a medical nurse. The hours are short and regular, while surroundings are usually such as appeal to persons of culture.

Credits obtained in this course will be allowed to those desiring to attend and complete the regular dental course, providing the requirements are fulfilled as provided for the regular dental course.

DENTAL MUSEUM AND LIBRARY

Members of the dental profession, dental students, and all persons interested, are invited to contribute to the museum such specimens of malformation, normal or diseased conditions as will serve for illustration of dental teaching; also to the library any books, pamphlets, journals, or other reading matter pertaining to dental subjects. Such contributions will be duly labeled with the donor's name and carefully preserved.

REQUIREMENTS FOR GRADUATION FOR SESSION OF 1905-1906

The candidate for graduation must be of legal age and of good moral character; must present to the faculty a satisfactory case of artificial dentistry; also the required clinical record of practical operations on the natural teeth; must sustain a satisfactory examination in the branches taught, and must prove his fitness for the practice of dentistry.

The time of study must include attendance on three courses of lectures, the last of which must be at this college.

The deportment during the course must have been unexceptionable, and attendance upon all lectures, clinics, and other instruction in the course must have been in accord with the requirements of the college.

Members of the senior class must notify the dean of the faculty in writing during the second week of April of

their intention of becoming applicants for the degree of Doctor of Dental Surgery, at the same time presenting a certificate from the treasurer of having paid all fees, and a certificate of legal age and good moral character.

Attendance on any course of lectures in other recognized dental colleges having similar requirements will be accepted as equivalent to a corresponding course in this college. Graduates of medical colleges will be required to attend two full years of instruction in this college, including all laboratory and clinical requirements, and all lectures, before applying for graduation.

Having complied with the requirements of this college the faculty will recommend the candidate to the board of regents as entitled to receive the degree of Doctor of Dental Surgery.

TUITION

Every student, before entering any department of the university is required to pay a matriculation fee of ten dollars. This fee is required the first year only.

The tuition charges in the College of Dentistry are twenty-five dollars a semester, and are due at the opening of each semester. A student registered in more than one college of the University is required to pay the tuition of the college having the higher or highest rate of tuition of the colleges in which he is registered, and is then granted free tuition in any other college of the University.

Tuition fees are in no case remitted.

Every student, before graduating or receiving any degree in any college of the University, is required to pay a diploma fee of ten dollars for each degree he receives.

There are no extra fees whatever, but a deposit of $3.00 must be made to cover breakage and loss before beginning work in the chemical laboratory. All material used in the laboratory and operative technic work, except gold, is furnished by the college.

The above statement of the fee is now in effect, and will be understood to apply to all students in the college, entirely irrespective of the date of registration.

COMPARATIVE STATEMENT OF STUDENT'S EXPENSES FOR THE ACADEMIC YEAR, SEPTEMBER TO JUNE

	Low	Average	Liberal
Matriculation Fee (First year only)	$ 10.00	$ 10.00	$ 10.00
Tuition Fees	50.00	50.00	50.00
Board (36 weeks)	63.00	99.00	126.00
Room, heated and lighted, (½)	36.00	45.00	54.00
	$149.00	$204.00	$240.00

The above estimates do not include such incidentals as books, instruments, clothing, laundry or membership in societies, some of which are luxuries and all of which vary greatly with the means and habits of the individual.

TEXT-BOOKS AND BOOKS OF REFERENCE

These can be obtained at the bookstores in Iowa City. Dealers give a discount of from ten to twenty per cent. The following are recommended by the faculty:

Operative Dentistry: American Text-book of Operative Dentistry, Ottolengui, Flagg's Plastics, Johnson's Principles and Practice of Filling Teeth.

Prosthetic Dentistry: Essig's Prosthetic Dentistry, Richardson's Mechanical Dentistry, Evan's Artificial Crown and Bridge Work.

General Pathology: Green, Stengel, Zeigler, Delafield, Pruden.

Bacteriology: Abbott, Crookshank, McFarland.

Histology: Piersol, Schaefer, Stirling, Klein.

Oral Pathology and Hygiene: Green, Garretson's Oral Surgery, Wilson on Hygiene, Marshall's Diseases of Face, Mouth, Jaws, Barrett's Oral Surgery, Burchard's Dental Pathology.

Chemistry: General Chemistry, Bloxam, Remsen; Qualitative Analysis, Rockwood.

Metallurgy: Essig, Hodgen.

Materia Medica: White and Wilcox, Potter.

Therapeutics: Gorgas, Hare, Long.

Dental Therapeutics: Gorgas, Eli Long, Borland.

Anatomy: Gray (13th edition), Holden's Landmarks,

Quain (10th edition), Holden's Osteology, McClellan's Regional Anatomy, Treve's Applied Anatomy.

Physiology: Landois and Sterling, Kirk, Stewart.

Orthodontia: Angle, Guilford.

Dental Anatomy: Black, Broowell.

Dictionaries: Harris, Dunglison, Thomas, Gould, Borland.

GENERAL INFORMATION

The office of the registrar is open every day in the year for students desiring to matriculate and complete registration.

Seats will be assigned to classes in the order of registration at the University.

Operating chairs will be assigned to the senior class in the order of registration at the University, but this privilege will be forfeited unless the student is in attendance at the opening of the session.

Students should make their arrangements to be in attendance on the first day of the session, as the faculty cannot adjust their plans to the tardy arrival of students by wasting time on unimportant lectures at the beginning. Promptness at the beginning of the term is very essential.

Members of the profession who receive this announcement are requested to notify the dean of any change in address. They will also confer a favor by sending the names of other dentists practicing in the towns in which they reside. For further information apply to William S. Hosford, Dean of the College of Dentistry, Iowa City, Iowa.

DENTAL CLINICS

STATISTICS—FOR THE YEAR 1904-1905

No. of patients treated in all departments.....10482

OPERATIVE DEPARTMENT

No. of fillings—gold	2097
No. of gold inlays	152
No. of porcelain inlays	98
No. of fillings—amalgam	3791
No. of fillings—cement	1194
No. of pulp cases	1175
No. of root fillings	1324
No. of cleaning cases	832
No. of pyorrhœa cases	88
No. of extraction cases	510
No. of abscess cases	338

PROSTHETIC DEPARTMENT

No. of full dentures	123
No. of full dentures—metal	24
No. of partial dentures	123
No. of partial dentures—metal	23
No. of crowns	1683
No. of porcelain crowns	297
No. of pieces of bridge work	201
No. of artificial velums	2

ORTHODONTIA DEPARTMENT

No. of sets of teeth regulated	50

ORAL SURGERY DEPARTMENT

No. of cases necrosis	12
No. of cases maxillary sinus	6
No. of cases hare lip	6
No. of cases cleft palate	3

Specimen Programme of the College of Dentistry

FRESHMAN YEAR

Hour	Monday	Tuesday	Wedn'day	Thursday	Friday	Saturday
8 to 9	Physi'l'gy		Dental Anatomy		Histology	Chemistry
9 to 10		Physi'l'gy	Histology	8:00 to 11:00 *Sec. I* Dental Anatomy Technic		
	9:00 to 11:00 *Chemical Laboratory*		9:45 to 10:45 *University Assembly*		9 to 12 *Chemical Laboratory*	Physi-ology
10 to 11		Anatomy	Prosthetic Dentistry			
11 to 12	Histology	Chemistry	Materia Medica	Anatomy *Recitation*		
1 to 5	1:00 to 4:30 *Sec I Prosthetic Technic* *Nov. 5 to Dec. 22 Dental Anatomy Technic*	1:00 to 4:30 *Sec. II Prosthetic Technic* *Nov. 5 to Dec. 22 Dental Anatomy Technic*	1:00 to 4:30 *Sec. I Prosthetic Technic* *Nov. 5 to Dec. 22 Dental Anatomy Technic*	1:00 to 4:30 *Sec. II Prosthetic Technic* *Nov. 5 to Dec. 22 Dental Anatomy Tichnic*	1:00 to 4:30 *Sec. I Dental Anatomy Technic*	

Anatomical Laboratory 3 to 5:30. Materia Medica second semester. Histology January 4th.

JUNIOR YEAR

Hour	Monday	Tuesday	Wedn'day	Thursday	Friday	Saturday
8 to 9	Chemistry	Prosthetic Dentistry	Materia Medica	Materia Medica	*Special* Pathology	*Oral* Surgery
9 to 10	Anatomy	Operative Dentistry	Anatomy	Physi-ology	Anatomy	Chemistry
			9:45 to 10:15 *University Assembly*		Physi-ology *Recitation*	
10 to 11	Physi'logy	*Chemical Laboratory* 10 to 12	Ortha-dontia	*Bacter-iological Laboratory* 10 to 12		
11 to 12	Bacteri-ology		Physi-ology		10 to 12 *Chemical Laboratory*	
1 to 5	1:00 to 5:00 *To Nov 5 Operative Technic* 1:00 to 5:00 *Prosthetic Technic Nov. 5 to Dec. 22*	1:00 to 5:00 *To Nov. 5 Operative Technic* 1:00 to 5:00 *Prosthetic Technic Nov. 5 to Dec. 22*	1:00 to 5:00 *To Nov. 5 Operative Technic* 1:00 to 5:00 *Prosthetic Technic Nov. 5 to Dec. 22*	1:00 to 5:00 *To Nov. 5 Operative Technic* 1:00 to 5:00 *Prostoetic Tnchnic Nov. 5 to Dec. 22*	1:00 to 5:00 *Prosthetic Technic*	1:00 to 5:00 *Prosthetic Technic*

General Therapeutics second semester. Anatomical Laboratory each day 3 to 5:30. Chemistry 4th quarter. Orthodontia Technic second semester. Special Therapeutics to be announced. Special Histology th4 quarter.

SENIOR YEAR

Hour	Monday	Tuesday	Wedn'day	Thursday	Friday	Saturday
8 to 9	Operative Dentistry	*Special* Therapeutics		Prosthetic Dentistry	Prosthetic Dentistry	
9 to 10	Operative Dentistry	Regional Anatomy	Clinical Dentistry		*Special* Pathology	
10 to 11		Orthodontia	9:45 to 10:15 *University Asssembly*	10 to 12 *Bacteriological Laboratory*	*Special* Pathology	9 to 12 *Infirmary*
11 to 12	Bacteriology	*Special Lectures*	*Special Lectures*		*Special Lectures*	
1 to 5	1:00 to 5:00 *Infirmary*	1:00 to 5:00 *Infirmary*	1:00 to 5:00 *Infirmary*	1:00 to 5:00 *Infirmary*	1:00 to 5:00 *Infirmary*	1:00 to 5:00 *Infirmary*

Pathology and Pathological Laboratories second semester.
Special Lectures to be announced.
Oral Surgical Clinic Saturday, 9:30 A. M.
Comparative Odontography 4th quarter,
Dental Jurisprudence 4th quarter.

THE COLLEGE OF PHARMACY

THE COLLEGE OF PHARMACY

FACULTY

GEORGE EDWIN MACLEAN, B. A., M. A., B. D., Ph. D., LL. D.,
President of the University. 603 College St. (108 Old Capitol)

WILBER J. TEETERS, B. S., M. S., Ph. C.,
Dean of the College, Professor of Pharmacy, Pharmacognosy and Director of the Pharmaceutical Laboratory.
West Side. (304 Pharmacy Laboratory)

EMIL LOUIS BOERNER, Ph. G., Phar. D.,
Emeritus Professor of Pharmacy. 325 N. Dubuque St.

ELBERT WILLIAM ROCKWOOD, B. S., M. D., Ph. D.,
Professor of Chemistry and Toxicology, and Director of the Chemical Laboratory. 1011 Woodlawn. (Chemical Laboratory)

CHARLES SUMNER CHASE, B. A., B. S., M. A., M. D.,
Professor of Materia Medica and Therapeutics.

BOHUMIL SHIMEK, C. E., M. S.,
Professor of Botany. 529 Brown St. (201 Science Hall)

THOMAS H. MACBRIDE, B. A., M. A., Ph. D.,
Special Lecturer. 728 Washington St. (206 Science Hall)

LAWRENCE MARSHALL BYERS, B. A., M. A., LL. B.,
Lecturer on Pharmacy Jurisprudence.

CARL L. VON ENDE, B. S., M. S., Ph. D.,
Instructor in Chemistry. 715 Gilbert St. (Chemical Laboratory)

ZADA M. COOPER, Ph. G.,
Instructor in Pharmacy.
20 S. Linn St. (304 Pharmacy Laboratory)

WILLIAM J. KARSLAKE, B. S., M. S., Ph D
Instructor in Chemistry.

CHARLES THAYER LINCOLN, B. S
Instructor in Chemistry.

*HARVEY H. LOCHRIDGE, B. S.,
Storekeeper in Chemistry.

ROY E. HALL,
Undergraduate Demonstrator in Pharmacology.

WILLIAM C. WOLVERTON,
Undergraduate Instructor in Pharmaceutical Latin.

HENRY VALENTINE FARR, B. S.,
Storekeeper in Chemistry.

PAUL HANZLIK, Ph. G.,
Attendant in Chemistry.

ROLLIN EDWARD HUMPHREY,
Undergraduate Assistant in Chemistry.

GEORGE LOUIS FRIEDHOLDT,
Undergraduate Assistant in Pharmaceutical Laboratory.

EARL ALLEN,
Undergraduate Assistant in Pharmaceutical Laboratory.

*Resigned January 1, 1905.

THE COLLEGE OF PHARMACY

The College of Pharmacy of the State University of Iowa was organized in 1885, and is an integral part of the University. This college offers a broad, thorough, practical course in the various subjects pertaining to pharmacy. The necessity for technical training in this subject is now recognized by all who are seeking to prepare themselves for the responsible positions of today, open only to the thoroughly trained, as prescriptionists, manufacturing pharmacists or industrial chemists. The services of skilled and thoroughly competent pharmacists are in demand. It is the aim of the college, as the state school, to coöperate with the pharmacists of the state in their efforts to maintain and elevate the standard of the profession. In planning the laboratory courses, the advantage to the student is kept constantly in mind.

The influence of carefully prepared laboratory courses cannot be overestimated, since, requiring patience, exactness and skill they cannot help but leave an impression upon the character of the student. It is the formative period and habits of systematic industry help to lay the foundation for success in life.

Personal interest and instruction has always been a feature of the college, and probably, in a large measure, is responsible for the success of its graduates. The students have all the privileges and share the spirit of a great educational institution.

BUILDING

This college is comfortably located in a three-story building erected at a cost of about fifty thousand dollars and furnishing about twenty-five thousand square feet of floor space, perhaps the largest accommodations in the way of room enjoyed by any college of pharmacy in this country. The equipment of this building is of the most modern type and is in keeping with the development of the science.

Through liberal appropriations periodically made by the legislature and board of regents, this equipment is being constantly enlarged, and affords excellent facilities for instruction. The lecture rooms are provided with all desirable conveniences for class demonstration, and with tablet chairs. The laboratories are especially roomy, the chemical and pharmaceutical laboratories, each occupying a floor space of 54x140 feet, which is divided into a large general laboratory and smaller rooms for special research. Two forty horse-power boilers supply the steam for all purposes, and a seven horse-power gas engine furnishes the power for the drug mill, dynamo, etc.

REQUIREMENTS FOR ADMISSION

Each applicant for admission must present to the faculty a satisfactory certificate of good moral character.

The following classes of applicants may be admitted to junior standing without examination:

1. Graduates or matriculates of reputable universities or colleges who present diplomas or certificates of honorable dismissal from such universities or colleges.

2. Graduates of state normal schools, of accredited high schools or academies, or of other secondary schools whose courses of study are approved by the University, who present diplomas or certificates showing such graduation.

3. Pupils who have only partially completed the course of study of a state normal school, accredited high school or academy, or other secndary school whose courses of study are approved by the University, upon presentation of certificates signed by the superintendent or the principal showing that they have completed the equivalent of at least *two years* of high school work, or *sixteen* (16) preparatory credits.* This certificate must be made on a blank form which may be obtained by addressing the president of the University, the dean of the College of Pharmacy, or the university examiner.

*A preparatory credit is defined as the equivalent of *one* high school study *five* days a week during a semester at least *eighteen* weeks in length, on the basis of *four* studies a day.

All other applicants may be admitted *only upon passing examinations* in the subjects named in the programmes of entrance examinations given below, or other subjects which are real equivalents.

Applicants presenting certificates from accredited schools for work not fully meeting the requirements for admission, will be examined in the subjects in which they are deficient.

Notice is given that the requirements for admission are to be extended in subsequent years.

It is urged that anyone expecting to enter the college of pharmacy next September send all certificates of preparatory work to the University examiner *as early in the summer as possible, and certainly before September 1.* If the credentials are satisfactory a card of admission will be sent to the applicant at once. Upon arriving in the city he should present this card to the dean for signature.

Admission to the senior class is gained by passing an examination in the branches of study taught during the junior year. Students presenting evidence of having passed the junior examination in another recognized college or school of pharmacy will be admitted without examination.

ENTRANCE EXAMINATIONS.

Any person expecting to enter the College of Pharmacy in September, 1905, should be careful to learn before the opening of the University exactly what entrance examinations he will be required to pass. He can learn this by addressing the president of the University, the dean of the College of Pharmacy, or the University examiner.

It is necessary that each applicant who is to be examined arrive in the city early enough to be present *at his first examination as indicated in the programmes given below.* He should present himself at once at the office of the University examiner who will give all necessary directions.

For *each separate* examination given at any other time than that announced in the following programmes, a fee of *one dollar* will be charged by the Univeristy. For a series of two examinations covering two or more subjects, a fee of *two dollars* will be charged.

PROGRAMMES OF ENTRANCE EXAMINATIONS

FIRST SEMESTER

Tuesday, September 19, and Wednesday, September 20, 1905

Arithmetic,	1 credit,	Monday,	1:30 p. m.
English and Eng. Grammar,	2 credits,	Tuesday,	4:30 p. m.
United States History,	1 credit,	Tuesday,	1:30 p. m.
Civil Government,	1 credit,	Tuesday,	2:30 p. m.
Algebra through Quadratics,	3 credits,	Wednesday,	8:00 a. m.
Physical Geography,	1 credit,	Wednesday,	11:00 a. m.
Botany,	1 credit,	Wednesday,	3:00 p. m.
Physiology,	1 credit,	Wednesday,	4:00 p. m.

SECOND SEMESTER

Friday, February 9, and Saturday, February 10, 1906

The examinations will be held at the same hours as in the programme above, reading Friday and Saturday for Tuesday and Wednesday, respectively.

OUTLINE OF THE PLAN OF INSTRUCTION

The courses of instruction, as outlined in the following pages, embrace lectures, recitations, and laboratory exercises. Attention is called to the fact that the most modern methods of instruction are followed and an unusually large amount of carefully systematized laboratory instruction is given under the direct supervision of the professor in charge. The student in this way not only has an opportunity to apply theory but becomes proficient in manipulative skill, which is indispensable to the pharmacist. The laboratory method of instruction also has the advantage of impressing upon the mind scientific truths that would be soon forgotten if received merely as stated facts, hence in order to stimulate the student's power of accurate observation equal stress is placed upon experimental and theoretical work in chemistry. Organic chemistry and quantitative analysis are taken up in the second year and in this as well as in the first year's work careful laboratory work accompanies the lectures. The theory and practice of pharmacy is made more real by having the apparatus or preparation under discussion always at hand when possible.

The study of botany is made more interesting and practical by laboratory work, field excursions, board drawings and the lantern; while pharmacognosy is also studied with drug in hand, specimens being furnished for home study. The course in pharmaceutical Latin is especially adapted to the needs of the pharmacist. Pharmaceutical mathematics, and its application to the every-day work of the pharmacist, is too often neglected, so shall receive the attention that its importance deserves. In materia medica the action of many drugs is demonstrated in the pharmacological laboratory. A course in the analysis of urine, gastric juice, milk and water is given in the senior year.

A few lectures will be given on the pharmacy laws of the state. Special lectures from time to time will be given by men eminently qualified to speak from their own experience on commercial pharmacy and subjects of special interest to pharmacists.

THEORETICAL PHARMACY

PROFESSOR TEETERS

1. This course begins with lectures considering the history of pharmacy and the text books and books of reference used. Remington's Practice of Pharmacy will be used as a guide and each subject carefully considered. Lessons will be assigned and recitations elucidated by apparatus used in the various processes or preparations under discussion. The composition, method of preparation, physical properties, impurities, and tests of the various substances will have attention according to importance or value in pharmacy.

Junior year, four hours each week first semester and three hours each week second semester.

2. This course is a continuation of course 1, and among important subjects discussed will be detailed consideration of inorganic and organic acids, and official salts; fixed and volatile oils and fats; alkaloids and glucosides. Especial attention is paid to the chemistry and incompatibility of the above, also physical characteristics, therapeutic properties, dose and price.

Senior year, three hours each week, first semester and first quarter, second semester.

3. The study of the prescription will be taken up in detail, incompatibility, pharmaceutical, therapeutical and chemical; solubility of ingredients, price etc., considered, also practice in reading difficult prescriptions from photographs taken from actual prescription files and thrown on the screen.

The lectures will be followed by practical laboratory work in filling prescriptions, labeling and wrapping ready for delivery, under careful personal supervision.

Senior year, two hours each week, second quarter, second semester.

PRACTICAL PHARMACY

PROFESSOR TEETERS, MISS COOPER

1. In this course the student will make about 150 United States Pharmacopœia and National Formulary preparations, taking them up in progressive order, illustrative of

the various processes used in pharmacy. Each preparation is graded separately and required to meet a reasonable standard of quantity, quality and strength. The instruction will embrace practice in the use of thermometers, hydrometers, specific gravity bottles, balances, etc. The preparation of hypodermic and compressed tablets, scale salts, pill masses, syrups, tinctures, fluid extracts, emulsions, suppositories, ointments, etc.

Each student receives a mimeograph copy of the list of preparations to be made which gives quantities and method to be employed in manufacture and serves as a guide for review.

Junior year, nine hours each week throughout the year.

2. This course will consist of the manufacture of about seventy-five preparations, selecting the more difficult galenicals from the U. S. Pharmacopœia, National Formulary and special formulas and will include the preparation of many chemicals which the pharmacist should and can prepare for himself with both advantage and profit.

Senior year, laboratory course. Nine hours each week, first semester.

3. This course will have especially in view practical application of knowledge gained in previous courses and will consist in applying U. S. P. tests for identity and detection of impurities in drugs; the determination of strength of official preparations made by junior students; the detection of adulteration of food.

Senior year, combined lecture and laboratory course. Six hours each week. First quarter, second semester.

4. In this course, the compounding of prescriptions under careful individual instruction at the prescription counter, illustrative of chemical, pharmaceutical, and physiological incompatibility.

Senior year, laboratory course. Six hours each week. Second quarter, second semester.

5. The preparation of difficult official and unofficial preparations, practical prescription work and the analysis of proprietary preparations.

Third year; first semester; two hours a week.

QUIZ CLASSES

MISS COOPER

1. In connection with course 1 of Practical Pharmacy a quiz class is conducted which covers difficulties likely to be encountered in laboratory work. The composition of the various preparations, with chemistry involved, and the reasons for each step in their manufacture will receive careful consideration.

Junior year, one hour each week throughout the year.

2. In connection with course 2 of practical pharmacy a quiz class is conducted which aims to bring out all the important points concerning the preparations made in the laboratory. Each week's work is explained in advance, giving methods, and noting especially the precautions necessary to the successful manufacture of each preparation. The composition of each and the chemical reaction which takes place is carefully considered together with uses, dosage, etc.

Senior year, one hour each week, first semester and first half of the second semester.

CHEMISTRY

PROFESSOR ROCKFORD; DR. VON ENDE, DR. KARSLAKE, MR. LINCOLN

For a description of the work in Chemistry see courses 19 (20), 33 (34), 35 (36), 57, 58a, 58b, 41 (42), 7, 9 (10), 21 (22) 27 (28), 29, 30, 37 (38), 40, 43, 44, on pages 189–196.

BOTANY

PROFESSOR SHIMEK

1. PLANT PHYSIOLOGY AND HISTOLOGY—This course is designed to give the student a knowledge of the activities of ordinary plants. It embraces the study of so much of structure as is necessary to an understanding of the processes which ultimately result in the formation of organic products, among which those of professional value to the pharmacist are specially studied. The course is introductory to course 3.

Junior year, first semester, two two-hour periods each week.

2. SYSTEMATIC BOTANY.—This course consists of the study of the organography of plants with a view of acquiring familiarity with the terms and methods which are used for purposes of description and identification.

Types of the principal orders of greatest economic value are studied in detail, and special attention is given to the spring medicinal flora. In order that the student may also acquire some familiarity with the rich autumnal flora this course is continued for about four weeks in the first semester of the senior year.

Junior year, second semester. Two hours each week.

3. MICROSCOPIC TECHNOLOGY—This course includes instruction in the use of the compound microscope, and its employment in the investigation of vegetable structures. The student is supplied with an instrument and all necessary reagents and apparatus, and is taught the various modes of cutting, staining, and mounting histological preparations. Practical instruction is given in the use of the microscope in the identification of crude drugs, as well as in the detection of adulteration. Each student taking this course prepares at the laboratory for his own use a cabinet of microscopic slides, illustrative of many of the more important official drugs.

Senior year. Two hours each week, throughout the year after the first four weeks.

PHARMACOGNOSY

PROFESSOR TEETERS

1. This course will take up the history and important features of each drug, the means of identification, constitutents, action, dose and official preparations.

The organic drugs of the United States Pharmacopœia will be considered in the following order: roots, rhizomes, tubers, and bulbs, twigs, woods and barks.

Due stress is given to each drug in consideration of its importance to the pharmacist.

Specimens are furnished to students for home study, and the students ability to identify the vegetable drugs is tested.

Junior year, two hours each week, second semester.

2. A continuation of course 1. Taking up leaves and leaflets, herbs and flowers, fruits and seeds, and the vast number of miscellaneous and more important unofficial drugs.

Senior year, two hours each week, throughout the year.

3. A laboratory course given in connection with course 2 in which the principal constituents of the organic drugs are studied by laboratory methods.

Senior year, about two hours per week, throughout the year.

4. The principal groups of chemical constituents of drugs as glucosides, alkaloids, etc., will be extracted from plants and carefully studied. Some attention will be given to plant analysis.

Third year, second semester; two hours a week.

PHARMACEUTICAL MATHEMATICS

MISS COOPER

The aim of this course is to teach the student to use easily and accurately the various weights and measures, the relation of one system to another in comparison with a common standard; the mutual relation of weight and volume; the calculation of strength and proportions in making pharmaceutical preparation or the dilution or concentration of substances to obtain any required result; the computation of dosage.

Junior year, first semester; three hours each week.

MATERIA MEDICA

PROFESSOR CHASE; MR. HALL.

1. A knowledge of the action of drugs can be obtained by the student of pharmacy only by empirical or rational methods. Since the former, based upon clinical observation of their uses, is obviously beyond his reach, the latter, or

rational method, is followed. Since this is based upon the observed or known action of drugs upon living animal cells, tissues, organs, apparatuses, etc., it is desirable that the student should be given an elementary course in physiological materia medica. To this end the first weeks of the course in materia medica are devoted to familiarizing the student with anatomical structures and their functions in so far as they are related to the subject of drugs and their action.

Junior year. One hour each week, first quarter, first semester. Professor CHASE.

2. Following the preceding course the student is given preliminary definitions of the subject; also the definition of such terms as alkaloids, leucomaines, ptomaines, etc. The various official preparations are defined and discussed. The routes and modes of administration of remedies, and their physiological and toxicological action are likewise considered. The subjects of dosage and incompatibilities as related to prescription-writing, are presented; the former finally, the latter begun, to be continued as a parellel study in the consideration of individual drugs.

Junior year. One hour each week, second quarter, first semester. Professor CHASE.

3. The origin, source, composition, chemical characteristics, physical properties, modes of preparation and of administration, and physiological and toxicological action of drugs of the organic materia medica are begun.

Junior year. One hour each week, second semester. Professor CHASE.

4. Continuation of the preceding course. The student is required to complete the transcription of the text, begun in the preceding course and used by him in his study, in a notebook specially prepared for such purpose, with a view to aiding his memory. He is also given drill in prescription-filling and interpretation. The organic materia medica is thus completed.

Senior year. One hour each week, first semester. Professor CHASE.

5. Serum-therapy, antitoxins, organic extracts, vaccine-virus, etc., will furnish topics to be specially considered in

this course. Pharmacologic demonstrations will be made before the members of this class during the last quarter of the second semester illustrating the most important drugs of the Pharmacopœia. These topices and subjects of emergencies, and first-aid-to-the-injured, and how they may be met by the pharmacist in the absence of the physician, with a final review will conclude the entire subject.

Senior year. One hour each week, second semester. Professor CHASE.

PHARMACY LAW

Professor L. M. Byers, of the College of Law, will deliver a short course of lectures treating of the validity and construction of laws especially restraining the practice of pharmacy; of the liability of pharmacists both criminal and civil, for their own violations of laws and that of their agents. Second semester.

INSTRUCTION IN THE COLLEGE OF LIBERAL ARTS

Students of pharmacy who desire to take work in the College of Liberal Arts in addition to their work in the College of Pharmacy without being a candidate for a degree in the College of Liberal Arts, are allowed to take such work to an extent not exceeding five hours a week so long as they maintain a good standing in their pharmacy studies and do the work elected in the College of Liberal Arts to the satisfaction of the professors in charge thereof. There is no additional tuition charges for such instruction.

QUALIFICATIONS FOR GRADUATION

Every person upon whom the diploma of this college is conferred must be of good moral character, must have arrived at the age of twenty-one years, must have attended two full courses of lectures, including two full courses of pharmaceutical, microscopical, and chemical laboratory practice, the last one of which shall have been completed in this college.

The degree of Graduate in Pharmacy (Ph. G.) will be granted upon fulfillment of the above conditions.

The degree of Pharmaceutical Chemist (Ph. C.) will be granted upon fulfillment of the above conditions together with the work outlined for the third year with the approval of the faculty.

WEIGHTS AND MEASURES

The State standards of weights and measures are kept at Iowa City, under the direct supervision of L. G. Weld, professor of mathematics and astronomy, and dean of the graduate college.

MUSEUM

Pharmacists of the state are requested to send to the Pharmaceutical Laboratory, curios, such as old books, old prescriptions, old apparatus, or other material that will indicate, for educational purposes, the history and progress of pharmacy in Iowa. All such contributions will be prominently displayed in cabinets provided for the purpose and labeled with the names of the donors.

READING ROOMS

Reading and reference libraries are maintained in connection with the chemical, botanical and pharmaceutical laboratories. In the latter, the leading current drug journals are kept on file.

PHARMACEUTICAL CLUB

The scientific society of the college, known as the Mortar and Pestle Society, was organized to give an opportunity for the discussion of subjects of general and practical interest to pharmacists. Meetings are held every two weeks and all the students of the college become members by signing the constitution. It offers social and intellectual advantages and practice in public speaking.

ADMISSION TO PRACTICE

Graduates of pharmacy from the State University of Iowa are granted certificates of registration from the state board without examination.

SECURING POSITIONS

The faculty of the University will do all in their power to aid students to secure good positions, and in this we ask the co-operation of the pharmacists of the state. In the past we have been unable to fill all the requests for thoroughly qualified graduates.

TEXT BOOKS

JUNIORS—*U. S. Pharmacopoeia*, Remington's *Practice of Pharmacy*, *National Formulary*, Maisch's *Organic Materia Medica*, White and Wilcox's *Materia Medica and Therapeutics*, Macbride's *Lessons in Elementary Botany*, Gray's or Wood's *Manual*, Sturmer's *Pharmaceutical Aritimetic*, Crothers and Bice, *Elements of Latin for Students of Medicine and Pharmacy*.

SENIORS—In addition to the above, Caspari's *Treatise on Pharmacy*, Coblentz's *Hand-Book of Pharmacy*, Scoville's *Art of Compounding*.

REFERENCE BOOKS

U. S. Dispensatory, *National Dispensatory*, King's *American Dispensatory*, Fresenius's *Analytical Chemistries*, Hoffman and Power's *Examination of Medicinal Chemicals*, Gray's *Botanical Text-Book*, Vol. II.

Schneider's *Powdered Vegetable Drugs*, Flueckiger's *Principles of Pharmacognosy*.

Sayre's *Organic Materia Medica and Pharmacognosy*.

TUITION FEES

Every student before entering any college of the University is required to pay a matriculation fee of ten dollars.

The tuition charges in the College of Pharmacy are twenty-five dollars a semester or fifty dollars for the year. Each semester's tuition is due at the time of registration for that semester. There are no extra fees whatever, but for each laboratory course in chemistry or practical pharmacy there is required a deposit of three dollars to cover breakage and to insure the return of all keys at the close

of the session. This sum, (breakage, if any, deducted) is returned to the student on presentation of the certificate of the professor in charge of the laboratory in question.

Every student, before graduating or receiving any degree in any college of the University, is required to pay a diploma fee of ten dollars for each degree he receives.

A student carrying six hours or less of work a week in the University shall pay half the regular tuition of the college in which he is registered for the time during which he shall carry such work.

A student registered in more than one college of the University is required to pay the tuition of the college having the higher or highest rate of tuition of the colleges in which he is registered, and is then granted the privilege of free tuition in any other college of the University.

Tuition fees are in no case refunded.

SPECIAL STUDENTS

Applicants for admission to the College of Pharmacy, not candidates for a degree, but desiring to pursue special subjects, will be admitted on the same conditions, governing the regular students of the college or by giving satisfactory evidence that they are qualified to pursue the subjects desired.

ADVANCED STANDING

Students making application for advanced credit must present credentials showing that they have successfully pursued the branches in which they desire credit in a standard college or if admission to the senior class is desired they must furnish certificate showing that they have successfully passed the junior examinations in a reputable college of pharmacy.

ESTIMATE OF STUDENT'S EXPENSES

for the entire year. The expense for one semester ought to be about one-half this amount:

	Low	Average	Liberal
Matriculation fee (paid but once)	$ 10 00	$ 10 00	$ 10 00
Tuition	50 00	50 00	50 00
Books and stationery	15 00	20 00	30 00
Laboratory breakage	00	1 25	2 00 up
Room (36 weeks)	18 00	36 00	54 00 up
Board (36 weeks)	63 00	90 00	126 00
Laundry	9 00	15 00	20 00
	$ 165 00	$ 222 25	$292 00up

There are no dormitories or commons in connection with the University. Clubs are formed in which the price of board is nominal. The price of rooms depends upon conveniences and distance from the campus.

SELF SUPPORT

Students who find it necessary to earn part of their way through college can usually find work, as Iowa City with its nine thousand inhabitants furnishes many opportunities for employment.

The Y. M. C. A. and the Y. W. C. A. have established employment bureaus especially for the use of students.

PRIZES

LINDLY PRIZE

Mr. John M. Lindly of Winfield, Iowa, offers a prize consisting of Britton & Brown's Illustrated Flora to the student of the senior class who shall bring from his home county the best herbarium of not less than fifty plants. The candidate before receiving the prize must become a member of the University Pharmacy Alumni Association, and the collection shall become the property of Mr. Lindly.

ALUMNI ASSOCIATION PRIZE

The Alumni Association of the college extends a free

membership to the member of the graduating class attaining the highest general average in all branches.

Awarded in 1904 to Mr. John A. Farley, Waukon, Iowa.

MEMBERSHIP IN A. PH. A. PRIZE

Membership in the American Pharmaceutical Association is offered by Professor Wilber J. Teeters to the member of the senior class who by competitive examination is rated highest in recognition and description of organic drugs.

Awarded in 1904 to Mr. Walter T. Coffman, South English, Iowa, and Mrs. Minnie Dunn, Iowa City, Iowa.

ALUMNI ASSOCIATION

The Alumni Associatioon takes a deep interest in the work of the college. Yearly meetings are held during commencement week and the proceedings of the association are published together with the register of alumni. Officers for 1904-5 are as follows:

President—W. F. F. Junger, Reinbeck, Ia.

First vice president—W. J. Doyle, Davenport, Ia.

Second vice president—J. A. Farley, Iowa City, Ia.

Recording secretary—A. N. Brown, Council Bluffs, Ia.

Corresponding secretary—J. M. Lindly, Winfield, Ia.

Treasurer—J. H. Novak, Iowa City, Ia.

Executive board—W. F. Webbles, Davenport, Ia.; W. L. Walters, Wellman, Ia.; Zada M. Cooper, Iowa City, Ia.

STUDENTS IN ALL THE COLLEGES

THE COLLEGE OF LIBERAL ARTS

DEGREES CONFERRED JUNE, 1904

BACHELOR OF ARTS

Beaulieu, Leo Victor
Blum, Daisy Pearl
Cushing, Raymond George
Fleming, Ruth
Hoffman, Mabel V.
Kastman, Valborg
Speidel, Mae Elizabeth Agnes
Stewart, Rolland Maclaren
White, Warren Henry
Young, Iowa Madge

BACHELOR OF PHILOSOPHY

Alexander, Bertha Evelyn
Bedford, Lyman Daniel
Blaine, Lela Rebecca
Brackney, Herbert Winfield
Brainerd, Helen Louise
Curtis, Cora Gertrude
M. Di., 1898,
Iowa State Normal
Donovan, Louis Patrick
Gilbert, Harold Brayton
Hellberg, Will Fred
Hodge, Lida Jayne
Hunt, Heman Doud, Jr.
Johnson, Joel Ernest
M. Di., 1900,
Iowa State Normal
Johnson, Joseph Oliver
M. Di., 1897,
Iowa State Normal
Johnston, Edward Ray
Kriechbaum, Bertha Emily
Kunz, John Franklin
Lambert, Emma Frances
M. Di., 1897,
Iowa State Normal
Lauer, William Arnold
Lilly, Fanny Parmer
Lynch, Alice Marie
McLane, Arthur C.
Melzner, Arthur Burdell
Meyer, Jacob William
Moffitt, Chester Earl
Morris, Mary Makepeace
Moulton, Lulu
Neander, Victor Theophilus
Nelson, Edmund Christian
M. Di., 1897,
Iowa State Normal
Newman, Clarence Adelbert
Pattie, Martha
Preston, Clara Carlton
Raguet, Marguerite
Savage, John Elton
Schaefers, Rose Theresa

Schneider, Daniel Dietrich
M. Di., 1902,
Iowa State Normal
Shannahan, Edwin Joseph
Smith, Maude Louise
Sporleder, Mary Louise
Swire, Ethelind
Thomas, Abram Owen
Thomas, Seth
Voss, Hertha Louise
Wiehr, Josef

BACHELOR OF SCIENCE

Adams, Waldo Johnson
Burnett, George Ritter
1880, West Point
Cogswell, John Wilkinson
Cross, Cash R.
Dorweiler, Paul
Ivins, Harry Morgan
Jackson, Edwin Roy
Kern, Frank Dunn
Kleinsorge, Rudolph Ernst
Knupp, Samuel C.
M. Di., 1902,
Iowa State Normal
Landers, Lou Cornelia
Lewis, Laura Iowa
Longstreth, Oscar Dolsen
M. Di., 1898,
Iowa State Normal
Meakim, Roger Joseph
Miles, Lulu
Royal, Malcolm Allen
Rule, Edward A.
Rutledge, Herbert Alvin
Ingram, B. M. E., 1894,
Iowa State College
Schenck, Charles Plume
Seerley, Clem Clifford
M. Di., 1902,
Iowa State Normal
Taylor, Maude Estella
Welch, David Sewell

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Bartholow, Claude Alpheus
Burgum, Harry Pitkin
Chesley, Frank Ephraim
Crane, Ernest B.
Dye, Harvey Leroy
Foster, Charles Clarence
Hardman, Roy Cordis
McCrory, Samuel Henry
Moffatt, Burnam A.
Nugent, Francis
B. S., 1903
Welch, Hershey Samuel
Willis, Harry Douglas

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Gates, Ernest H.

DEGREES CONFERRED JULY, 29, 1904.

BACHELOR OF PHILOSOPHY

Magowan, Florence Nettie Moffett, Lambert Benton

BACHELOR OF SCIENCE

Hockett, Sebern Waldo Weber, Harry

DEGREES CONFERRED FEBRUARY 22, 1905

BACHELOR OF PHILOSOPHY

Drake, Guy Arthur VanDeSteeg, George Herbert
Mahaffy, James Henri Paine, Sarah Olivia

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Eckhard, George Frederick

SENIORS

Aardappel, Walter	C. E.	Sioux Center
Achenbach, Emma Elisabeth	Sci.	Gladbrook
M. Di., 1902, Iowa State Normal		
*Allen, Burritt Steward	Phil. & L. c.	Laurens
Allstrand, Mae Belle	Classical	Missouri Valley
Anderson, Harold Charles	Phil.	Oelwein
Ankerman, Lina Caroline	Phil.	Deep River
M. Di., 1902, Iowa State Normal		
Ballard, Mary Elizabeth	Phil.	Iowa City
Barrett, Edward Cecil	Phil.	Burlington
Blakely, Ernest Reuben	C. E.	Corydon
Boerner, Edna Louise	Phil.	Iowa City
Boles, Harry Edward	Phil.	Missouri Valley
Brant, Lucy Winifred	Phil.	Iowa City
Brown, Earl	Phil.	Emmetsburg
Buffum, Mary Susan	Phil.	LeRoy
Burnquist, Bert Blaine	Phil. & L. c.	Ft. Dodge
Call, Merlyn Bush	Classical	Iowa City
Chase, Nellie Althea	Phil.	Waterloo

* Projected registration

Crane, Agnes Mae	Phil.	Mason City
Danielson, Henry Clarence	C. E.	Lamoni
Daum, Philip Hugh	Sci.	Davenport
LL. B., 1901		
Davies, Robert Geiser	Classical	Emmetsburg
DeHart, Otto Dell	C. E.	Milton
**Drake, Guy Arthur	Phil.	Adel
Dunlap, Fanny	Phil.	Ofallon, Mo.
**Eckhard, George Frederick	C. E.	Cedar Falls
M. Di., 1900, Iowa State Normal		
Emmert, Max Washabough	Classical	Atlantic
Fay, Wylie Webb	Phil.	Nevada
Files, Ray	Phil. & L. c.	Iowa City
Finkbine, Robert Hoyt	Sci.	Des Moines
Gabriel, Grace Ethel	Classical	Des Moines
Goodwin, James Edwin	Sci. & L. c.	Burt
Gordon, Arthur Clarkson	Classical	Iowa City
Gordon, Pearl Avis	Phil.	Hamilton, Ill.
Griffith, Dwight Moody	Classical	Iowa City
Griffith, Mary Caroline	Sci.	Iowa Falls
Heard, Mary Kathrina	Phil.	North East, Penn.
Ph. C., 1892, the University of Michigan		
*Hill, Eddy Cecil	Phil.	Nashua
M. Di., 1900, Iowa State Normal		
Hinkle, Bessie Catherine	Phil.	Harvard
Hinkle, Jessie Ellen	Phil.	Harvard
Hoar, Mary Elizabeth	Phil.	Iowa City
Holmes, Grace Maude	Phil.	Waterloo
Hutchinson, Everett Ross	Phil.	Allerton
Hutchinson, Martha	Phil.	Carlisle
M. Di., 1899, Iowa State Normal		
Kalkofen, Emma E.	Phil.	Fontanelle
Kerstetter, Susan	Classical	La Porte City
M. Di., 1903, Iowa State Normal		
Kimple, Mae Belle	Phil.	Corydon
Knapp, Carl William	Classical	Dubuque
Landers, John Clement	C. E.	Webster City
Long, Cecile Florence	Classical	Bedford

**Graduated February 22, 1905.

Louis, Anna	Sci.	Harlan
Lynn, Margaret May	Phil.	Iowa City
McClennahan, Perry Eugene	Phil.	Winterset
M. Di., 1899, Iowa State Normal		
McClintock, Calvin Terry	Classical	Iowa City
McCullough, Clara Elizabeth	Phil. & L. c.	Osage
M. Di., 1903, Iowa State Normal		
McVay, Mary Alice.	Phil.	Iowa City
**Mahaffy, James Henri	Phil.	Morning Sun
Main, Herman Charles	Classical	Algona
Marick, George Louis	C. E.	Allerton
Mark, Edward William Bartholomew	Sci.	LeClaire
M. Di., 1900, Iowa State Normal		
Marsh, Ruth Maria	Classical	Charles City
M. Di., 1901, Iowa State Normal		
Metzger, Belle Agnes	Classical	Iowa City
Metzger, Della Elizabeth	Classical	Iowa City
Miller, Dalton Giles	C. E.	Guthrie Center
Miller, Grace May	Classical	Storm Lake
Moler, Ida Muriel	Phil.	Iowa City
Moling, Lura May	Phil.	Iowa City
Morgan, Frank Sonum	Phil.	Harlan
Naberhuis, Henry Albert	C. E.	Sioux Center
Nichols, Ethel Gay	Phil.	West Liberty
**Paine, Sarah Olivia	Phil.	Iowa City
Parish, John Carl	Phil.	Cedar Falls
M. Di., 1902, Iowa State Normal		
Patton, Ruby Emma	Sci.	Newton
Phelps, Henry Hurst	Sci. & L. c.	Springdale
Pickett, Mrs. Lena Elson	Sci.	Lineville
Quigley, Edward Gross	Phil.	Iowa City
B. Di., 1900, Iowa State Normal		
Randall, Ray	Sci.	Denison
Redfield, Roy Addis	Phil. & L. c.	Ruthven
Rink, Clarence William	Phil.	Shelby
Roberts, Jennie Ellen	Phil.	Iowa City
Robinson, Agnes Louise	Phil.	Council Bluffs

Ross, Carl Wesley	Classical	Decatur, Ill.
Sebern, Nellie Brewer	Classical	Vinton
Shaw, John Austin	C. E.	Vinton
Siemen, Edward Anthony	C. E.	Sioux Center
Skelley, Silas Emmett	Phil. & L. c.	De Witt
Snedicor, Fred Elwyn.	Phil.	Cherokee
Soesbe, Carrie May	Classical	Greene
Struble, Isaac Irving	Sci.	LeMars
Sunier, Bertha	Classical	Iowa City
Swain, Robert Taylor	Phil.	Council Bluffs
*Thomas, Samuel Lenhart	Sci.	Council Bluffs
M. Di., 1892, Iowa State Normal		
Thompson, Elizabeth	Phil.	Armstrong
Thompson, John Wesley	Phil.	Wapello
VanderZee, Jacob	Classical	Sioux Center
**VanDeSteeg, George Herbert	Phil.	Orange City
Veblen, Gertrude Ingeborg	Phil.	Iowa City
Veblen, Signy Arndora	Phil.	Iowa City
Waldron, Alice Margretta	Phil.	Greenfield
Walker, Laura	Phil.	Des Moines
Wallin, Ivan Emanuel	Sci.	Stanton
Waterbury, Ella Betts	Classical	Iowa City
Watson, Emery Earnest	Sci.	Stockport
M. Di., 1901, Iowa State Normal		
West, Philip Cecil	Class.& L.c.	Irwin
Whitacre, Max	C. E.	New Sharon
Wiley, Stella Lucile	Phil.	Castana
Wille, Otto Victor	Sci.	Iowa City
Williams, Etta Louise	Phil.	Parkersburg
Williams, Mary Florence	Classical	Iowa City
Wilson, Clara Rosa	Phil.	Atkinson, Neb.
Wolf, Bertha Sarah	Phil.	Tipton
Wright, Arthur Hemmerling	Sci.	Cedar Falls
M. Di., 1903, Iowa State Normal		
Wright, Luella Margaret	Phil.	Cedar Falls
M. Di., 1901, Iowa State Normal		
Wyland, Benjamin Franklin	Phil.	Hiriam
Young, Hugh Edward	C. E.	Anamosa

Yule, Anna May	Phil.	Tipton

JUNIORS

Adams, Mary Annette	Phil.	Shelby
Albright, George Carter	Phil.	Danville
Baird, Justis Nathan	Phil.	Keosauqua
Baldwin, Norah	Phil.	Keswick
Banta, George Sherman	Phil.	Manchester
Battles, Perle Mae	Sci.	Maquoketa
Bean, Arthur Neal	Sci.	Eagle Grove
Beatty, Floyd James	Sci.	Tipton
Blum, Effie Clare	Phil.	Rossville
Bolton, Edwinna Rose	Phil.	Tomah, Wis.
Bos, Garrett	E. E.	Pella
Breese, Garfield Eugene	Sci.	Iowa City
Brinton, Edward Arthur	Phil.	Iowa City
M. Di., 1902, Iowa State Normal		
Brown, Augusta	Phil.	Wall Lake
Bruins, William John	C. E.	Sioux Center
Burge, Edith	Phil.	Iowa City
Burkheimer, Ira Arthur	Phil.	Creston
Carroll, Frances Alma	Phil.	Harlan
Champion, Roy B.	E. E.	Iowa City
Cleveland, Ray Eli	Classical	Cedar Falls
M. Di., 1904, Iowa State Normal		
Coulter, Wilbur Edwin	Phil.	Burlington
Curtis, Edith Hannah	Phil.	Allison
M. Di., 1895, Iowa State Normal		
Darland, Grace	Sci.	Iowa City
Davidson, Lois Craig	Phil.	Estherville
Davidson, Orin Victor	Phil.	Burlington
DeSellem, Anna Louise	Phil.	Iowa City
Doll, Clara	Phil.	Iowa City
Dow, Harry Earnest	Classical	Denmark
Ebersole, Edwin Christian	Phil.	Iowa City
Eckhardt, Henry Jacob	C. E.	Davenport
Edinger, Paul Frederick	Classical	Davenport
Edwards, Alice Mavor	Classical	Waterloo
Felt, Stanley Evans	Phil.	Des Moines

Fitzgerald, Edward Clarence	Phil.	Rock Rapids
French, Hiram Earl	Sci.	Humboldt
French, Royal F.	Phil.	Humboldt
Fritzel, Carl C.	Sci.	Conrad
Goetz, Antoinette	Phil.	Iowa City
Gregory, Horace Whiting	C. E.	Denison
Hannum, Roy Findley	Phil.	Winfield
Hemmer, Emil John	C. E.	Iowa City
Hennessy, Edward Francis	C. E.	Iowa City
Hobby, William Richard	C. E.	Iowa City
Hutchison, Raymond Orrin	Phil.	Lake City
Illick, John Theron, Jr.	Phil.	Burlington
Isenberg, Irving Ray	C. E.	Green Mountain
Jacobs, Sadie	Classical	Burlington
Jamison, Jeannette	Phil.	Burlington
Jones, Pamelia Pearl	Phil.	Cherokee, Kas.
Jones, Ralph Emerson	Phil.	Williamsburg
Jones, Wata Jane	Phil.	Iowa City
Joy, William Bixby	Phil.	Iowa City
Kelley, James Madison, Jr.	Sci.	Macedonia
Kettlewell, Wallace Irwin	C. E.	Iowa City
Knauer, Eda Dorothy	Phil.	Des Moines
Koeper, Frank Earnest	M. E.	Marshalltown
Kruse, Paul Jehu	Classical	Boone
Lancaster, Alice May	Phil.	LeClaire
Lemon, Frank Carl	Sci.	Guthrie Center
Loizeaux, Cecilia Adelaide	Phil.	Des Moines
*Luse, Eva May	Classical	Ross
M. Di., 1904, Iowa State Normal		
McAuliff, Leslie	Classical	LeMars
McIntyre, Ray	Phil.	Ottumwa
MacDonald, John Robert	E. E.	Anaconda, Mont.
Meade, Emery Linn	C. E.	Clinton
Merritt, Mabel Clough	Phil.	Iowa City
Miller, Margaret Jane	Phil.	Iowa City
Milner, Robert Sidney	Classical	Belle Plaine
Mingus, Florence Mary	Phil.	Iowa City
Moon, Herbert Lovelace	Sci.	Iowa City

*Projected registration.

Moore, Fred	Sci.	Harlan
Morris, Winifred	Phil.	Carson
M. Di., 1899, Iowa State Normal		
Mueller, Louis Francis	Classical	Iowa City
Nelson, Bendix John	Phil.	Farsworth
M. Di., 1904, Iowa State Normal		
Ogden, Elizabeth Jane	Phil.	Williamsburg
Owen, William Beam	Classical	Toledo
Pahlas, Henry Martin	Sci.	Elkader
Parish, Jessie Augusta	Sci.	Iowa City
Paulson, Caroline H.	Phil.	Britt
Paulus, Martha Ann	Phil.	Iowa City
Payne, Paul Marvin	Phil.	Linden
Pentecost, Verne Reynolds	Sci.	Panora
Pingrey, Lucy Olive	Classical	Estherville
B. Di., 1899, Iowa State Normal		
Portlock, Beth M.	Sci.	New London
Price, Hiram T.	Phil.	Iowa City
Price, Mildred	Classical	Iowa City
Randall, Clifford Alonzo	C. E.	Denison
Reherd, Mary Louise	Phil.	Geneseo, Ill.
Remley, Alice	Phil.	Iowa City
Rider, Thomas Thiel	Sci.	Iowa City
Riemcke, Charles August	Sci.	Muscatine
Ph. G., 1903		
Rinker, Purly	Phil.	Seymour
Royal, Myrtle Emeline	Phil.	Des Moines
Ruby, Sarah Amelie	Phil.	Lake Mills
Ruff, Edward John	C. E.	Wilton Junction
Sangster, Frank	Phil.	Iowa City
Schultz, Clara Mary	Phil.	Burlington
Seidel, Earl Reinholdt	M. E.	Portland
Shedd, Verna May	Phil.	Council Bluffs
Sherwood, Elizabeth Julia	Classical	Iowa City
Sleeter, Ralston William	Sci.	Storm Lake
Smith, Addie Mahala	Phil.	Duluth, Minn.
Smith, Matilda Annie	Phil.	St. Ansgar
Stearns, Robert Wilson	Sci.	Webster City
Steere, Kenneth David	Phil.	Iowa Falls

Stevens, James Merrill	E. E.	Sheldon
Stone, Edna Pearl	Phil.	Burlington
Stoner, Nellie Dae	Classical	Iowa City
Stookey, Marian	Phil.	Leon
Strange, Joanna Gleed	Phil.	Sioux City
Swanson, Julia Elmida	Classical	Webster City
Tupper, Eliakim William	C. E.	Osage
Volland, Mrs. Mabel Montgomery	Phil.	Iowa City
B. Di., 1899, Iowa State Normal		
Wachs, Anna Frances Rosaline	Phil.	Iowa City
Wallace, Arthur Clarence	Sci.	Rock Rapids
Weber, Eva	Phil.	Corning
West, Myrta Gertrude	Classical	Irwin
Wharton, Ralph Waldo Emerson	Phil.	Franklin
Wichman, Henry	E. E.	Malcolm
Wright, Bert J.	C. E.	Plato
Wright, William Coutts	C. E.	Tipton
Yule, Mildred Rebecca	Sci.	Tipton

SOPHOMORES

Abrams, Adah Louvae	Phil.	Iowa City
Adams, Nina Elsie	Phil.	Shelby
Adams, Robert Perry	Sci.	Solon
Alt, Grace E.	Phil.	Iowa City
Anders, Mae Corinne	Classical	Iowa Falls
Barnes, Harlan Ward	Phil.	Eagle Grove
Barrow, Mary Modestas	Phil.	Iowa City
Bevins, Nathan Sidney	Sci.	Hawkeye
Bowman, Clarence Henry	C. E.	Solon
Boyce, Mary Mabel	Phil.	Iowa City
Bracewell, Edna	Sci.	Allerton
Bradley, Benjamin Graham	C. E.	Iowa City
Bucklen, Julia Damaris	Sci.	Marble Rock
B. Di., 1904, Iowa State Normal		
Burgess, Joseph Henry	C. E.	Cresco
Butterworth, Julian Edward	Classical	Dows City

Churchill, Edward Perry	Phil.	Allerton
Clark, Dan Elbert	Phil.	Sioux City
Cooper, Frederick Richard	Phil.	Ottumwa
Corso, Ignatia	Phil.	Iowa City
Coyle, Claude Ham	Phil.	Humboldt
Crockett, Grace Cathryn	Phil.	Iowa City
Daley, John Grant	Sci.	Harlan
Duncan, Cleveland Reuben	Sci.	Iowa City
Dunlap, Marcia	Phil.	Ofallon, Mo.
Edwards, Evie James	E. E.	Williamsburg
Eichhorn, Charles Raymond	Sci.	Atlantic
Emmons, Olin Joseph	E. E.	Iowa City
*Farnum, Mrs. Eva Crane	Phil.	Mason City
Fieseler, Mary Alice	Phil.	Iowa City
Fitz, Earl Moore	Phil.	Panora
Flickinger, Floyd Spangler	E. E.	Council Bluffs
Francis, Marian Louise	Phil.	Ackley
Fullerton, Robert Parsons	Sci.	Des Moines
Gittins, Gertrude	Phil.	Williamsburg
Glass, Remley John	Phil.	Mason City
Godown, Elmer	Sci.	Linden
Graham, Amy B. Di., 1901, Iowa State Normal	Sci.	Atlantic
Griepenburg, Milf Menken	Phil.	Kingsley
Haldeman, Virginia Morning	Classical	Iowa City
Hamilton, Joseph Montgomery Casey	Classical	Ft. Madison
Hanson, George B.	Phil.	Britt
Hatch, Edward J.	Sci.	Hamburg
Hayes, Fannie Belle	Phil.	Denison
Healy, William	Phil.	Lisbon
Heinsius, Cecil Mercedes	Classical	Iowa City
Hemsing, Maurice Abreo	Sci.	Stoughton, Wis.
Higley, Hazel Elizabeth	Phil.	Iowa City
Hodge, Katherine Julena	Phil.	Maquoketa
Holiday, Sadie Gregg	Phil.	Burlington
Holmes, Anna Ann	Sci.	Waterloo

*Projected registration

Hoth, Louis	C. E.	Mexico City, Mex.
Hrbek, Jeffrey Dolezal	Phil.	Cedar Rapids
Hubbard, Elbert Hamilton, Jr.	Classical	Sioux City
Husted, Horace Lee	Sci.	Muscatine
Jones, Laurence Clifton	Phil.	Marshalltown
Kacherian, Hovhannes Sarkis	Sci.	Sevas, Turkey
Kalkofen, William Henry	Phil.	Decatur City
Kern, Edna	Phil.	Reinbeck
Kimble, Howard	C. E.	Clear Lake
King, Lylas Sarah	Phil.	Grundy Center
Koser, Mary Glee	Phil.	Iowa City
Kramer, Raymond Carl	C. E.	Elkader
Lawson, Jennie Loraine	Phil.	Corydon
Lee, Albert Walter	C. E.	Iowa City
Le Van, Alvin	C. E.	Guthrie Center
Lorenzen, Lorenz	Phil.	Denison
Lovell, Lafayette Washington	Phil.	Monticello
Lyon, Myra	Phil.	Iowa City
McEachran, Annie Mary	Phil.	Williamsburg
McGowan, Mollie Palmer	Classical	Clear Lake
McIntosh, Lachlan Arthur	Phil.	Rochester
McKinley, Frederick William	Phil.	Clermont
Maynard, Mignon J.	Classical	Council Bluffs
Mercer, Carrie Pearl	Phil.	Iowa City
Merrill, Dayton Eugene	Sci.	Bear Grove
Meyers, John Frederick	E. E.	Ida Grove
Middleton, William Drummond	Sci.	Davenport
Miles, Donald Webster	Phil.	Washington, D. C.
Miller, Grace E.	Phil.	Muscatine
Morris, Robert Ernest	Phil.	Brighton
Neustadt, George Auerbach	Sci.	La Salle, Ill.
Newcomb, Gertrude Kimball	Sci.	Shell Rock
O'Brien, Edith Frances	Phil.	Iowa City
Ogden, Glenn Rosamond	Classical	Williamsburg
Olen, Hubert Leonard	Classical	Paullina

Oliver, Ralph Addison	Classical	Onawa
Olsen, William Harold	Mech. E.	Rock Rapids
Perrine, Peter Ralph	Sci.	Burlington
Peterman, Thomas Blaidsell	M. E.	Lead, S. Dak.
Pike, Montgomery Everett	Classical	Williamsburg
Quigley, Louis Leroy	E. E.	Iowa City
Remley, Agnes	Phil.	Anamosa
Reynolds, Beatrice Bartlett	Phil.	Brayton
Rhynsburger, Dick Cornelius	C. E.	Orange City
Riley, Will Francis	Phil.	Burlington
Rittenmeyer, Adelaide Alice	Phil.	Iowa City
Ritz, Philip Embury	Phil.	Sergeants Bluffs
Rorick, Elroy Edward	Phil.	West Branch
Sanford, William Allen	Sci.	Kansas City, Mo.
Schultz, Benjamin Franklin	C. E.	Tipton
Scroggs, Thomas Berryhill	Sci.	Beresford, S. Dak.
Severa, Lumir	Sci.	Cedar Rapids
Seydel, Fred	Phil.	Iowa City
Sheldon, Celia Helen	Phil.	Victor
Showalter, Mary Ellen	Phil.	Council Bluffs
Shrimplin, Jessie C.	Phil.	Mt. Ayr
Sieg, Walter Russell	C. E.	Marshalltown
Sies, Ethel	Phil.	Oxford
Springer, Edward Thomas	Phil.	Las Vegas, N.Mex
Sterrett, George Cleo	Phil.	Deep River
Stone, Merle Rufus	Sci.	Hawarden
Stoner, Dayton	Sci.	Iowa City
Swisher, Alice	Phil.	Iowa City
Thompson, Effie Louise	Phil.	Iowa City
Topping, Clyde Hamilton	Phil.	Burlington
Vasku, Frank	Classical	Bendon, S. Dak.
Veblen, Harold	E. E.	Iowa City
Vestal, Clarence Leroy	Phil.	Warsaw, Ill.
Washburn, Alma Sylvia	Phil.	Lead City, S. Dak.
Watters, Carrie Charlotte	Phil.	Irwin
West, Mary Parsons	Phil.	Sioux City
White, Abigail Elvira	Classical	Wellpinit, Wash.
White, Tullius Vernon	Classical	Iowa City

Will, Frank Arthur	Sci.	Des Moines
Williams, Bertha May	Sci.	Barnes
Williams, Harriet Helen B. Di., 1901, Iowa State Normal	Classical	New Sharon
Williams, Leigh Lawrence	Classical	Iowa Falls
Willis, Earl Clifton	Phil.	Clarksville
Wilson, Frank Robert	Phil.	Sioux City
Wilson, Malcolm Earl	E. E.	Rock Rapids
Woods, Mary Louise	Phil.	Iowa City
Woodworth, John Melvin	Phil.	Ida Grove
Yocom, Alice Emily	Sci.	Oskaloosa

FRESHMEN

Adams, Harold Montford	Sci.	Shelby
Alcorn, Glenn	Phil.	Perry, Okla.
Andersen, Anne Marie Kathryn	Phil.	Lyons
Andrews, Frank Edwin	Phil.	Morse
Arnold, Floyd Henry	Classical	Manchester
Bailey, Sadie Lydia	Phil.	Iowa City
Baker, Norman Merrill	C. E.	Davenport
Ball, Edith	Classical	Iowa City
Barrow, Ida Gertrude	Phil.	Iowa City
Barry, Agnes Mildred	Sci.	Iowa City
Bauder, Ray Dexter	Sci.	Nashua
Baum, Henry John	C. E.	Stone City
Beatty, Ralph Erwin	Phil.	Tipton
Beem, Joe Spencer	Classical	Marengo
Bosworth, William Raymond	E. E.	Webster City
Bowen, Mabel Meardon	Classical	Iowa City
Branson, Pearl Gertrude	Classical	Iowa City
Brennan, Clara Anna	Phil.	Iowa City
Brinton, Grace	Phil.	Iowa City
Brodersen, Hilda Louise	Phil.	Denison
Brown, Andrew Dobbie	Sci.	Atlantic
Brown, George	Phil.	Wilton
Brown, Laura	Phil.	Solon
Burgum, Joseph Case	E. E.	Oelwein
Campbell, John Alexander L.	Sci.	Sheldon

Canfield, Lloyd Angle	C. E.	Dexter
Carl, Henry Howard	E. E.	Newton
Carlson, Alexander Ulysses	E. E.	Humboldt
Carrell, Dale Everett	Sci.	Iowa City
Clark, Anna Bessie	Phil.	Maquoketa
Clark, Timothy John	C. E.	Clinton
Conaway, John Wesley	Phil.	Marcus
Consamus, Magdalena Agnes	Classical	Iowa City
Corbett, Thomas Francis	Phil.	Iowa City
Couch, Charles Everett	M. E.	Marengo
Cozine, Edna Mable	Phil.	Iowa City
Crawford, Nelson Antrim, Jr	Classical	Council Bluffs
Dane, George Louis	C. E.	Williamsburg
Daniels, William Harrison	Sci.	Williamsburg
Davis, Charles Franklin	Sci.	Iowa City
Davis, Evan J.	E. E.	Williamsburg
Delmege, Maude	Phil.	Des Moines
Dennis, Gertrude	Phil.	Iowa City
Doolittle, Alta Fern	Phil.	Webster City
Duncan, William Homer	Sci.	Iowa City
Dunham, Frank Clark	Phil.	Estherville
Dvorsky, Lillian Frances	Phil.	Iowa City
Elliott, Leroy Patton	Sci.	Iowa City
Felkner, William Willard	Sci.	Iowa City
Foote, Jessie Mae	Classical	Iowa Falls
Forbes, Naana Lynn	Phil.	Ft. Dodge
Friedline, Orie	Phil.	Ida Grove
Goetz, Antony Lewis	E. E.	Iowa City
Gordon, Willard Benedict	Phil.	Iowa City
Grandrath, Elesa Margaret	Phil.	Iowa City
Grissel, Jeannetta	Phil.	Iowa City
Hands, Elsie	Phil.	Iowa City
Hanke, Ella Sophia	Phil.	Iowa City
Hansen, Margaret Emma	Phil.	Missouri Valley
Hanzlik, Paul John Ph. G., 1902	Phil.	Cedar Rapids
Hartnell, Raymond Samuel	Phil.	Gaylord, Mich.
Hazard, Archie Merrill	C. E.	Iowa City
Herrick, Charles Ernest	Phil.	Exira

Hershire, Elizabeth Akers	Sci.	Iowa City
Hertz, Henry John	Sci.	Iowa City
Hess, Percy Shelley	C. E.	Iowa City
Hoar, Friend Reed	Phil.	Iowa City
Hoar, Herbert Henry	C. E.	Iowa City
Hobart, Tenny May	Phil.	Cherokee
Holland, Regina Agnes	Phil.	Iowa City
Hooley, Margaret Ellen	Phil.	Nichols
Hooley, Rosa Leona	Phil.	Nichols
Hotz, William Joseph	Phil.	Iowa City
Howell, John William	Sci.	Eagle Grove
Huff, Archie B.	Sci.	Maquoketa
Hummer, Paul Louis	Phil.	Iowa City
Hyland, Raymond Bernard	Phil.	Vinton
Johnson, Wilber	Phil.	Clear Lake
Johnston, William Samuel	Phil.	Estherville
Jones, William Elwyn	Phil.	Nashua
Kennedy, Jennie Mae	Classical	Iowa Falls
Kent, Maurice Allen	Sci.	Marshalltown
Kimple, Lillian Blanche	Phil.	Corydon
Knerr, Ina Helen	Phil.	Allerton
Kurz, Emma Bernadine	Phil.	Morning Sun
Ladd, Clarence Estabrook	Phil.	Estherville
Lamb, Leonard Lucius	Sci.	Atalissa
Latchem, Louise May	Phil.	Washington
Lawrence, Arthur Elmer	M. E.	Ft. Madison
Lee, Rupert Ivan	Sci.	Atlantic
Leighty, James William	Phil.	Dexter
Lorenzen, Ernest B.	Mech. E.	Clinton
McCann, Charles Raymond	C. E.	Springdale
McCauley, Jennie Lavenia	Phil.	Paullina
McKay, Lou Estella	Phil.	Wapello
McManus, Frank Paul	C. E.	Iowa City
McMurray, Ray	Mech. E.	Newton
McNeely, Ella Beatrice	Phil.	Burlington
McRaith, Abigail Loretta	Phil.	Iowa City
Macbride, Philip Douglas	Sci.	Iowa City
Macomb, Ida May	Phil.	Paullina
March, Bert Thomas	C. E.	Ocheyedan

Marolf, Louis Charles	Classical	Wilton Junction
Martin, Alfred Henry	Sci.	Iowa City
Matheson, John Roy Douglas	Classical	Billings, Montana
Mercer, Willis Wesley	C. E.	Iowa City
Merritt, Frank D.	Sci.	Iowa City
Mickelson, Elizabeth Angeline	Phil.	Webster City
Miller, Herschel Frederick	Phil.	Belmond
Miller, Mary Jayne	Phil.	Iowa City
Moeller, August Lenzen	Phil.	Denison
Moon, Arnold Robert	Sci.	Williamsburg
Moore, Marguerite	Phil.	Traer
Morford, Elvira Maude	Phil.	Iowa City
Morgan, Charles Henry	E. E.	Iowa City
Mortland, Maizie	Phil.	Montezuma
Mueller, Margaret Mary	Classical	Iowa City
Morse, Stephen Wayne	Phil.	Eagle Grove
Mulnix, Margaret Ione	Phil.	Dows
Murphy, Bernard Vincent	Sci.	Ida Grove
Myers, Frank Martin	Phil.	Beaman
Myers, Walter Lawrence	Classical	West Branch
Newgord, Harry Morris	Phil.	Belmond
Oehler, Lucile	Sci.	Iowa City
Ogg, Harry Lamb	E. E.	Newton
Oliver, Marcus Solomon	Sci.	Onawa
Person, Elvero Hildegard	Sci.	Wallingford
Phelps, Louis Varney	C. E.	Springdale
Pike, Robert Baxter	Phil.	Whiting
Pond, John Emerson	Sci.	Monticello
Poyneer, Fred Julian	E. E.	Williamsburg
Puckett, Ralph Clarence	Mech. E.	Rock Rapids
Randall, Winfield Scott	C. E.	Denison
Remley, Robert Glass	Phil.	Anamosa
Repass, Harry Delano	Mech. E.	Dexter
Richards, Richard Lee	C. E.	Cedar Rapids
Rohrer, Catherine Mary	Classical	Iowa City
Royal, Wilmot Kingsbury	Phil.	Des Moines
Rudy, Hilda Grace Victoria	Classical	Decorah
Russell, Stella Maude	Phil.	Tiffin

Sample, Mathias William	C. E.	Iowa City
Schacht, John Richard	C. E.	Aspinwall
Scherner, John	E. E.	Remsen
Schindhelm, William John	E. E.	Iowa City
Schmidt, Gustav Paul	Mech. E.	Iowa City
Schrock, Elmer Cleland	C. E.	Iowa City
Schuette, Minnie Antoinette	Phil.	Ackley
Schwimley, Nellie Ethel	Sci.	Iowa City
Scroggs, Helen	Classical	Beresford, S. Dak.
Secrest, Charles Mahlon	E. E.	Downey
Sellers, Frederic Walter	Phil.	Cherokee
Sherman, Richard Charles	Sci.	Ft. Dodge
Sherwood, Winifred Whitman	Classical	Iowa City
Sieh, John Peter	Sci.	Reinbeck
Simons, Charles E.	E. E.	Ida Grove
Smith, Mabel Adele	Phil.	Ute
Smith, Ray Leonard	Classical	Guthrie Center
Smith, Stella Mabel	Phil.	Harlan
Soehl, Fred Herman	C. E.	Denison
Spangler, S. T., Jr.	Sci.	Winthrop
Spence, William Everett D. D. S., 1902	Phil.	Milton
Stockdale, Verne Katherine	Phil.	Iowa City
Stouffer, Theta Beryl	Phil.	Iowa City
Stout, Clare Agne	Phil.	Tipton
Sweet, Hazel Marie	Phil.	Sioux City
Swire, Edith Margaret	Phil.	Iowa City
Thomas, Franklin	C. E.	Red Oak
Thompson, Margaret Adelaide	Phil.	Iowa City
Treynor, Albert McKune	Phil.	Des Moines
Truscott, Albert	Sci.	Miles City, Mont.
Vandenburg, Bessie	Phil.	Armstrong
Vogt, Helen Marie	Phil.	Iowa City
Wallace, Laura Ellen	Phil.	Allerton
Wallin, Florence Elvira	Phil.	Stanton
Whedon, Alma	Phil.	Iowa City
White, Roy Allen	C. E.	Cresco

Wilkinson, Harry Blaine	Sci.	Brooklyn
Wille, Frieda Dora	Phil.	Iowa City
Willis, Theodore Alan	Sci.	Iowa City
Wilson, Harry Archibald	Sci.	Oelwein
Worster, Mary Jo	Phil.	Adel
Wright, John Robert	Phil.	Knoxville
Wyland, Alma Jane	Phil.	Harlan
Yavorsky, Irene Caroline	Phil.	Iowa City

SPECIAL

Baines, Margaret May	What Cheer
Brink, Charles Clifton	Doon
Craig, John Wesley	Lohrville
Cress, Earl Elliott	Riverside
Cross, Lillian Pearl	Vinton
Davis, Will B.	Cresco
Fisher, Nellie Delilah	Troy Mills
Howard, James M.	Nashua
Lewis, Dorman Arthur	Moorhead
McBride, James Fred	Sterling, Ill.
McCulloch, William James	Nashua
Martin, Andrew Ray	Renwick
Meister, Rose Julia Augusta	Dysart
Middleton, John Gilchrist	Davenport
Parsons, Robert Alfred	Rock Rapids
Paulus, Mary	Iowa City
Portlock, Kineta de France	New London
Reaney, Charles Franklin	Wellman
Renshaw, Fred Earl	Inwood
Saylor, James Brown	Milton
Strawn, Harley O.	Sigourney
Sullivan, Anna Lelah	Lineville
Tucker, Lloyd Russell	Marseilles, Ill.
Vollmer, Henry Gottlieb	Burlington

UNCLASSIFIED

Alder, Theodora	Iowa City
Bain, Elizabeth Jane	Webster City
B. Di., 1898, Iowa State Normal	
Ballou, John Kendrick	Iowa City
Bammer, Samuel George	Hamburg
Barry, Adelaide Nellie	Iowa City
Beach, Glen Palmer	Clarion
Becker, Wilhelmina M.	Hubbard
Berry, John Williams	Iowa City
*Black, Mabel	Shellsburg
B. Di., 1901, Iowa State Normal	
Boland, Arthur Edward	Williamsburg
Boltz, Howard Wesley	North English
Brant, Irving Newton	Iowa City
Bridgens, John Guy	Eldora
Brown, William Ebenezer	Tipton
Burge, Jennie	Iowa City
Chalmers, Andrew Milton	Des Moines
Collins, Elizabeth Grace	Livermore
Ph. G., 1903	
Coover, Norma Eda	Iowa City
Cunningham, Fred Joseph	Allerton
*Curtis, Lewis Demain, Jr.	Center Point
M. Di., 1901, Iowa State Normal	
Davis, Mrs. Walter M.	Iowa City
Dolmage, John Peter	Iowa City
Donovan, Michael Leo	Oxford
Downey, Ezekiel Henry	Memphis, Mo.
B. S., 1898, Southern Iowa Normal	
Duncan, Sylvia Edith	Iowa City
Dunham, Marcia Orintha	Troy, New York
Elson, Jennie	Lineville
Felkner, Anne Winslow	Iowa City
Filut, John Frank	Milwaukee, Wis.
Fink, Anna Bertha Clara	Des Moines
Flom, Mrs. Loretto Regina	Iowa City

Fousek, Charles Karel Bretslav	Vega, S. Dak.
Frazier, Sebena Schoonover	Nevada
Frazier, Zoe Rae	Nevada
Frost, Charles Phinehas	Washta
Gracey, Glen Miles	Cherokee
Hallahan, Donald	Pomeroy
Hanson, George	Inwood
Hartley, Mary Catherine	Ida Grove
Hawkins, Horace Charles	Oskaloosa
Healy, James Peter	Inwood
*Hook, Ellis Jenkins	Decorah
Houghton, Paul	Hedrick
Jacobs, Hyrmal Ermine	Mt. Pleasant
Jayne, Arthur	Muscatine
Jaynes, Mrs. Anna M.	Iowa City
Jenkel, Paul Frederick	Dubuque
Jorgensen, James Edwin B. A., 1901	West Side
Joyce, Mary Catherine	Ft. Dodge
Kelly, Wayne	Rock Rapids
Knittel, Cecilia Emma	Sioux City
Koebel, George Pendleton B. S., 1898, Northern Illinois Normal	West Bend
Koser, George Doner LL. B., 1904	Iowa City
Lee, Roy Thomas	Iowa City
Long, Robert Elmer	Brooklyn
Luce, Charles Elmo	Nashua
Mathiesen, Kjirstine Aneta	Harlan
Matthews, Archie Henry Edgar	Marshalltown
Merritt, Maude	Ottumwa
Morrissey, Laurence Michael	Ottumwa
Mullan, Donald Gordon	Pomeroy
Murtha, Thomas James	Algona
Nebe, Edith Maie	Glenwood
Neyens, Florence Ellen	Muscatine
Nolan, Adelaide M.	Ft. Dodge

Parish, Ruth Ella	Iowa City
Patterson, Aileen	Iowa Falls
Popp, Lee Wilbert	Hudson
Ragsdale, Adah Claire	Des Moines
Rapp, Frederick J.	Oxford
Rhoades, William Julius	Oakland
Ries, Everildis Margaret	Iowa City
Rogers, Thomas Lowry	Minburn
Rundell, Mabel Anne	Iowa City
Salmon, Milo Freeland	Maxwell
Sample, Alta Belle	Iowa City
Scallon, Joseph John	Ackley
Schall, Elias Freeman	West Liberty
Sherbon, Solomon Frederick	Conrad
Slavata, Clara Josephine	Iowa City
Sloat, William Eugene, Jr.	Denmark
*Smith, Franklin Orion	Cedar Falls
M. Di., 1903, Iowa State Normal	
Sparks, Bertha E.	Iowa City
Stanard, Carl DeWitt	North English
Stockdale, Ella Naoma	Iowa City
Stockdale, James Edward	Iowa City
Tanner, Maude Charlotte	Williamsburg
*Thornburg, William Burton	Seymour
Throop, Martha Austa	Mt. Pleasant
Valerius, John Phillip	Davenport
Wachenfeld, Lillian Marie	Iowa City
Waite, Lovell Edith	Iowa City
Waite, Pearl Hortense	Iowa City
Walsh, Ana Stacia	Missouri Valley
Weber, Oscar Frank	Davis, Ill.
Westbrook, Clara Bertha	Lyons
Whedon, Arthur DeWett	Iowa City
White, Alda May	West Branch
White, Sadie M.	West Branch
Wilder, Mrs. Mary Welles	Iowa City
Williams, Roger LeRoy	Iowa City
Wise, Ray Harvey	Paton
Wolfe, Cressy C.	Bagley
Yessler, Arthur M.	Cedar Rapids

STUDENTS IN PROFESSIONAL COLLEGES REGISTERED FOR STUDIES IN THE COLLEGE OF LIBERAL ARTS

Aborn, Claude Elmer	Cedar Rapids
Barnard, Charles Robert	Clarion
Barney, Hiram, Jr.	Keokuk
Barrick, Edward Joseph	Des Moines
Bemis, George Arthur	Spencer
Boland, James McNamara	Dubuque
Brady, Albert Verne	Sanborn
Brinton, William Thomas	Iowa City
Burket, John Anson	Hawarden
Carlson, Elof Julius	Meriden
Christiansen, James M. Di., 1901, Iowa State Normal	Waterloo
Christy, Adelbert	Floris
Davis, Charles Henry	Greeley
De Vries, George Gabriel	Parkersburg
Dickson, Charles Frank	Manning
Dickson, Millard Ray	Luana
Drewry, Ray Forest B. Ph., 1903	Sac City
Dunn, Delbert	Cherokee
Frink, Earle Doane	Des Moines
Garvin, Thomas Martin	Ottumwa
Harding, Lee R.	Clinton
Hayden, Ulysses Grant	Wapello
Hennessey, Felix Alphonsus	Strawberry Point
Holmquist, David Elven	Cedar Rapids
Jeffers, Lyle Lawson	Hampton
Kelley, Emmett Joseph	Ft. Dodge
Kelley, James Edmund	Lamoni
Kelly, James Edwin	Hudson
Kerberg, Sidney Conkey	Sanborn
Krebs, William Hutchinson	Carroll
Lamb, James J.	Davenport
Lambert, Clarence Joseph	Adrian, Ill.

Lantry, Charles Cleveland	Algona
McGuire, Roy Alvin	Merrimac
McMurray, William Berlin, Jr.	Savannah, Ga.
McNett, Walter	Ottumwa
McPartland, George Parnell	Burlington
MacArthur, Wheaton Alexander	Burt
Meakim, Roger Joseph B. S., 1904	West Burlington
Miller, Albert Elias	Denison
Miller, Claude Melvin	Iowa City
Miller, Emil John	Manning
Neas, Harry Mackey	Sigourney
Negus, Alvah B. A., 1890; M. A., 1899, Penn College	Iowa City
Negus, Mrs. Cora Weber	Iowa City
Newbern, Lester F.	DeWitt
Nichol, Frank A.	Albia
Oldag, George Charles B. S., 1903, Dixon College	Luana
Pasley, Crockett Hector	Nevada
Perkins, Daniel R. B. Ph., 1901	Carson
Ramseyer, Christian William M. Di., 1902, Iowa State Normal	Bloomfield
Ranck, Lee Everett	Dallas City, Ill.
Rathbun, Don Seavey B. S., 1904, Cornell College	Kingsley
Reed, James Paul B. S., 1902, Valparaiso College, Indiana	Muscatine
Rue, Ole O.	Ridgewood
Savage, Samuel Micajah	Salem
Schadt, Fred Conrad	Amana
Scherling, Louis Conrad	Parkersburg
Schnare, Frederick William	Davenport
Schoenman, George Adolph LL. B., 1904, Drake University	Des Moines
Sherman, Ray Eugene	Ft. Dodge

Smith, Edgar Francis	**Iowa City**
Streff, Joseph Nicholas	**Alton**
M. Di., 1904, Iowa State Normal	
Stuart, Hugh Patrick	**Dubuque**
Walter, Earl Philip	**Hartley**
Ward, Everett Chapman	**Renwick**
Wilkinson, Levi Jennings	**West Liberty**
Wray, Frederick E.	**Curtis**

SUMMARY

Seniors	115
Juniors	122
Sophomores	133
Freshmen	184
Special	24
Unclassified	104
Professional students taking elective work	68
Total	750

SUMMER SESSION

THE GRADUATE COLLEGE

MATRICULATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Burton, Harry Edward — Onawa
B. A., 1901; M. S., 1903

Louis, John Jay — Marshalltown
B. Ph., 1899; M. A., 1903

Seaver, Fred Jay — Manson
B. S., 1902, Morningside College; M. S., 1904

Sherwood, Mrs. Elizabeth Lewis — Iowa City
B. A., 1881; M. A., 1903

Youngert, Sven Gustaf — Rock Island, Ill.
B. D., 1899; B. A., 1901, Augustana College

MATRICULATES FOR THE DEGREE OF MASTER OF ARTS

Aurner, Clarence Ray — Tipton
M. Di., 1891, Iowa State Normal; B. Ph., 1903

Beaulieu, Leo Victor — Sheldon
B. A., 1904

Countryman, George C. — Le Mars
B. A., 1900, Indiana Normal College
B. Ph., 1904, Western Union College

Ford, Percy Lindsay — LeGrand
B. A., 1897, Palmer College

Golden, Ethel Rose — Vinton
B. Ph., 1898

Johnson, Henry Charles — Greene
B. Ph., 1903

King, Agnes — Schaller
1903, Buena Vista College

Longstreth, Oscar Dolsen — Muscatine
M. Di., 1898, Iowa State Normal; B. S., 1904

Paine, Katherine — Iowa City
B. Ph., 1889

Randall, Frank Hall — Denison
B. A., 1902

Rich, David W. — Wayland
B. A., 1902

Speidel, Mae Elizabeth Agnes — Iowa City
B. A., 1904

Sterrett, Gretta — Humboldt
B. A., 1900, Iowa College

Tellier, Frank Ellsworth — Sutherland
B. A., 1899, Iowa College

Thomas, Seth — Washington
B. Ph., 1904

MATRICULATES FOR THE DEGREE OF MASTER OF SCIENCE

Edmondson, Charles Howard — Iowa City
B. Ph., 1903; M. S., 1904

Frary, Guy Griffin — Sioux City
B. S., 1902, Morningside College

Ivins, Harry Morgan — Grundy Center
B. S., 1904

Meade, James Albert — Iowa City
B. S., 1900, Iowa College

Meade, Leonard Fletcher — Iowa City
B. S. 1903, Iowa College

Rutledge, Herbert Alvin Ingram — Williamsburg
B. M. E., 1894, Iowa State College; B. S., 1904

Thomas, Abram Owen — Williamsburg
B. Ph., 1904

Wells, Nelson Dave — Mt. Pleasant
B. Ph., 1901, Iowa Wesleyan University

MATRICULATES NOT CANDIDATES FOR DEGREES

Anderson, Laura — Iowa City
B. Ph., 1901

Ballard, George Henry — Charles City
M. Di., 1900, Iowa State Normal; B. S., 1904; M. A., 1904

Barrett, Mary Emily	Iowa City
B. Ph., 1896	
Blum, Daisy Pearl	Rossville
B. A., 1904	
Brusie, Ida May	Iowa City
B. Ph., 1898	
Bush, Mrs. Rachel Mather	Iowa City
B. Ph., 1902	
Collins, Edward Robert	Iowa City
B. S., 1902	
Drake, Fred Collins	Iowa City
B. Ph., 1901; LL. B., 1903	
Fairfield, Alice Katherine	Groton, N. Hamp.
B. A., 1901, Oberlin College	
Foster, Blanche Fairfax	Iowa City
B. Di., 1898, Indiana State Normal; B. Ph., 1903	
Foster, Mabel Marcella	Iowa City
B. Ph., 1899	
Gilchrist, Helen Cox	Iowa City
B. Ph., 1899	
Hastings, Jessie Pearle	Iowa City
B. Ph., 1898	
Hershire, Mildred	Iowa City
B. Ph., 1901	
Hinman, Annie Evelyn	Grand Forks, N.D.
B. S., 1891	
Horner, Robert Messenger	Waitsburg, Wash.
B. A., 1880, Monmouth College; LL. B., 1881	
Howell, Gertrude	Iowa City
B. Ph., 1895	
Hughes, Louise Elizabeth	Iowa City
B. Ph., 1878; M. A., 1881; B. A., 1899	
Hunter, Etta Maria	Oasis
B. Ph., 1885	
Joy, Florence Livingston	Iowa City
B. Ph., 1902	
Kelley, Edmund Levi, Jr.	Lamoni
B. Ph., 1903	
Kelley, Richard Carlyle	Lamoni
B. A., 1903	

Kent, Grace Helen — Dunlap
B. A., 1902; M. A., 1904

Kyle, George Jerome — Pella
B. A., 1896, Denison University, Ohio

Loos, Mrs. Mary Alice Dickson — Iowa City
B. A., 1883, Otterbein University, Ohio

Lorenz, Charlotte Marie — Iowa City
B. A., 1902; M. A., 1904

Moffitt, Chester Earl — Fonda
B. Ph., 1904

Mordoff, Carrie Ella — Iowa City
B. Ph., 1884; M. A., 1887

Otto, Clementine — Iowa City
B. Ph., 1896

Otto, Lucia Caroline — Iowa City
B. Ph., 1902

Patton, Fanny Dodder — Iowa City
B. Ph., 1892

Quigley, Marjorie — Iowa City
B. A., 1903

Reed, Ivy Leslie — Hepburn
M. Di., 1900, Iowa State Normal; B. Ph., 1903

Risser, Oswald — Charles City
B. A., 1900, Iowa College

Ross, Anna Zoe — Council Bluffs
B. S., 1885

Schott, Sophia — What Cheer
B. Ph., 1900, Iowa State College

Slavata, Jennie Elizabeth — Iowa City
B. Ph., 1901

Speidel, Ida Theresia — Iowa City
B. S., 1903; M. S., 1904

Sporleder, Mary Louise — Iowa City
B. Ph., 1904

Starch, Daniel — LaCrosse, Wis.
B. A., 1903, Charles City College; M. A., 1904

Willis, Bertha Belle — Iowa City
B. Ph., 1901

Wise, George Chester — Wilton Junction
B. Ph., 1900; M. A., 1902

THE COLLEGE OF LIBERAL ARTS

SENIORS

Allen, Burritt Steward	Phil.	Laurens
Heard, Mary Kathrina	Phil.	North East, Penn.
Ph. C., 1892, The University of Michigan		
Hockett, Seburn Waldo	Sci.	Earlham
Magowan, Florence Nettie	Phil.	Tama
Martin, Katheryn	Phil.	Iowa City
Porter, Mary Montgomery	Class.	Albia
Rosenbladt, Fritz	Sci.	Bayard
M. D., 1904		
Thomas, Samuel Lenhart	Sci.	Council Bluffs
M. Di., 1892, Iowa State Normal		
Weber, Harry	Sci.	Mt. Pleasant

JUNIORS

Ballard, Mary Elizabeth	Phil.	Iowa City
Black, Anna Bell	Phil.	Shellsburg
M. Di., 1900, Iowa State Normal		
Boss, Clara Atwood	Class.	Cedar Falls
M. Di., 1895, Iowa State Normal		
Buffum, Mary Susie	Phil.	LeRoy
Burnquist, Bert Blaine	Phil.	Ft. Dodge
Christiansen, James	Phil.	Waterloo
M. Di., 1901, Iowa State Normal		
Corlett, Robert Kinley	Sci.	Iowa City
Crane, Agnes Mae	Phil.	Mason City
Drake, Guy Arthur	Phil.	Adel
Hayden, Clara May	Sci.	Eldon
Hoar, Mary Elizabeth	Phil.	Iowa City
Holmes, Grace Maude	Phil.	Waterloo
Jones, Pamelia Pearl	Class.	Cherokee, Kans.
1902, Kansas State Normal		
Knauer, Eda Dorothy	Class.	Ross

Luse, Eva May	Phil.	Des Moines
M. Di., 1904, Iowa State Normal		
McCullough, Clara Elizabeth	Phil.	Osage
M. Di., 1903, Iowa State Normal		
McVay, Mary Alice	Phil.	Iowa City
Marick, George Louis	C. E.	Allerton
Mark, Edward William Bartholomew	Sci.	Le Claire
M. Di., 1900, Iowa State Normal		
Metzger, Belle Agnes	Class.	Iowa City
Metzger, Della Elizabeth	Class.	Iowa City
Nichols, Ethel Gay	Phil.	West Liberty
Parish, John Carl	Phil.	Cedar Falls
M. Di., 1902, Iowa State Normal		
Pelzer, Louis	Phil.	Atlantic
M. Di., 1901, Iowa State Normal		
Smith, Matilda Annie	Phil.	St. Ansgar
Watson, Emery Earnest	Sci.	Stockport
M. Di., 1901, Iowa State Normal		
Whedon, Arthur DeWitt	Sci.	Iowa City
Williams, Mary Florence	Class.	Iowa City

SOPHOMORES

Beatty, Floyd James	Sci.	Tipton
Bradley, Frank Timothy	Sci.	Iowa City
Burton, Clifford Edgar	Sci.	Yorktown
B. Di., 1901, Iowa State Normal		
Coffin, Frank W.	Sci.	Columbus Junct.
Edinger, Paul Frederick	Class.	Davenport
Farnum, Mrs. Eva Crane	Phil.	Mason City
Ferguson, Rose Mary	Phil.	Cherokee
B. Di., 1898, Iowa State Normal		
Haldeman, Virginia Morning	Class.	Iowa City
Lemon, Frank Carl	Sci.	Guthrie Center
Parish, Jessie Augusta	Sci.	Iowa City
Pingrey, Lucy Olive	Phil.	Estherville
B. Di., 1899, Iowa State Normal		
Rinker, Purley	Phil.	Seymour
Stevens, James Merrill	E. E.	Sheldon

Swisher, Alice	Phil.	Iowa City
Woods, Mary Louise	Phil.	Iowa City

FRESHMEN

Bailey, Hugh Lee	C. E.	Iowa City
Hershire, Elizabeth Akers	Sci.	Iowa City
Jones, Laurence Clifton	Phil.	Marshalltown
Lee, Albert Walter	C. E.	Iowa City
Miller, Grace E.	Phil.	Muscatine
Sterrett, George Cleo	Phil.	Deep River
Veblen, Harold	E. E.	Iowa City
Vermillion, Clara Marinza	Phil.	Iowa City
Will, Frank Arthur	Sci.	Des Moines

UNCLASSIFIED

Ankerman, Alma	Deep River
Ankerman, Lina Caroline	Deep River
M. Di., 1902, Iowa State Normal	
Ballou, John Kendrick	Iowa City
Benedicta, Sister M.	Sioux City
Beranek, Maria Emelia	Solon
Black, Mabel	Shellsburg
B. Di., 1901, Iowa State Normal	
Blake, Loretta Helene	Des Moines
B. Di., 1899, Iowa State Normal	
Bossert, Mildred L.	Tipton
Brinton, Grace	Iowa City
Brown, Jessie Clara	Greenfield
Cuplin, Ida Luella	Elkhart, Ind.
Curtis, Lewis Demain, Jr.	Center Point
M. Di., 1901, Iowa State Normal	
Dance, Arlynn Millie	Lisbon
Emerentia, Sister M.	Sioux City
Fackel, Jennie Pearl	Reinbeck
Fitzgerald, James Edmund	Sioux City
M. Di., 1895, Iowa State Normal	
Galagan, Nellie	Buffalo Center
Gallaher, Ruth Augusta	Arlington
Garrette, Corinne	Cedar Rapids

Garrette, Ella D.	Cedar Rapids
Gruwell, Della Mae	Springdale
Hanson, Mary Ethel	Tipton
Hazard, Archie Merrill	Iowa City
Hook, Ellis Jenkins	Decorah
Hope, Lida Marshall	Sheldon
Jacobs, Ida	Des Moines
Jameyson, Charles Oscar	Reinbeck
B. Di., 1898, Iowa State Normal	
Koebel, George Pendleton	West Bend
B. S., 1898, Northern Illinois Normal	
Krause, Sophia Charlotte	Garwin
Krofta, Josephine Irene	Iowa City
Lamb, Willis Elmer	Dell Rapids
M. Di., 1902, Iowa State Normal	
Landon, Pearl May	New Hampton
Latchem, Louise May	Washington
Longerbeam, Carrie Lillian	West Branch
McClanahan, Perry Eugene	Winterset
M. Di., 1899, Iowa State Normal	
Mather, Lydia Jeannette	Springdale
Meek, Extine Likins	Madrid
Miller, Julia	Davenport
Moffett, Lambert Benton	Oelwein
M. Di., 1891, Iowa State Normal	
Moore, Elizabeth Jane	Derby
Nolan, Adelaide M.	Ft. Dodge
Otis, Caroline N.	Boone
M. Di., 1897, Iowa State Normal	
Philomena, Sister M.	Iowa City
Post, Jennie Elizabeth	Cedar Rapids
Quigley, Edward Gross	Iowa City
B. Di., 1900, Iowa State Normal	
Ramseyer, Christian William	Bloomfield
M. Di., 1902, Iowa State Normal	
Reed, Kate Susan	Newton
Richey, Ada Maude	Cedar Rapids
Roman, Ida Georgia	Cedar Rapids
B. Ph., 1898, Coe College	
Ronge, Henry Ernest	Davenport

Rourke, Mary	Farley
M. Di., 1901, Iowa State Normal	
Schall, Elias Freeman	West Liberty
Senning, John Peter	Le Mars
B. Ped., 1903, Western Union College	
Smith, Franklin Orion	Cedar Falls
M. Di., 1903, Iowa State Normal	
Sorensen, Anna Marie	Hampton
Sturm, Mrs. Isabel Currier	Iowa City
Swan, Grace Newell	Mt. Pleasant
B. S., 1900, Iowa Wesleyan University	
Taff, Lucy Agnes	Ft. Dodge
Tapper, Inga Berntine	Stone City
Tellier, Mrs. Margaret Bryce	Sutherland
Thorson, Thorwald	Forest City
Trafford, Millie	West Branch
Tyler, Grace Clarissa	Columbus Junct.
VanDyke, Florence Mabel	Belle Plaine
Whetstone, Robert Reed	Iowa City
Whitmell, Marie Theresa	Decorah
B. Di., 1903, Iowa State Normal	
Wood, Adelia Marilla	Iowa City
Woodruff, John Perry	Denison
M. Di., 1900, Iowa State Normal	

THE LIBRARY TRAINING SCHOOL

Bahner, Pearl Monema	Forest City
Bailey, Flora Belle	Perry
Bailey, Myrtle Estella	Grinnell
Bryant, Ursula Page	Marion
B. S., 1896, Coe College	
Cook, Lillian Elizabeth	Clinton
Douglas, Mary Margaret	Ontario, Canada
Freed, Kittie Belle	Ames
B. A., 1902, Iowa State College	
Gabrilsen, Carolyn Sherman	New Hampton
Goodrell, Edna Alice	Des Moines
Hamilton, Theodosia Estelle	Indianola
B. A., 1902, Simpson College	
Harris, Grace Winnifred	Ogden, Utah

Hauer, Mrs. Luella	West Liberty
Holman, Meda May	Rockwell
Horton, Mrs. Elizabeth Margaret	Algona
McBride, Jessie Esther	Davenport
B. A., 1902, Cornell University	
McNish, Mabel Onetha	Fremont, Neb.
Miltomore, Cora	Stillwater, Okla.
Parker, Nellie Marian	Marshalltown
Parkhurst, Mary Lovisa	Marion
Ray, Mary Katherine	Kearney, Neb.
Ritchie, Jessie Eunice	Oskaloosa
Roberts, Jennie Ellen	Iowa City
Swan, Martha Blanche	Mt. Pleasant
B. S., 1896, Iowa Wesleyan University	
Thompson, Eleanor	Jacksonville, Ill.
Tiffy, Bessie Ellen	Clinton, Mo.
Townsend, Eliza Ellen	Keokuk

THE COLLEGE OF MEDICINE

Eyestone, Mrs. Martha Thrasher	Washington

SUMMARY

The Graduate College	70
The College of Liberal Arts	129
The Library Training School	26
The College of Medicine	1
Total	226

THE GRADUATE COLLEGE

DEGREES CONFERRED JUNE, 1904

DOCTOR OF LAWS (Honorary)

Deemer, Horace E.
LL. B., 1879

Richards, Harry Sanger
B. Ph., 1892; LL. B., 1895, Harvard University

MASTER OF ARTS

Ballard, George Henry, M. Di., 1900, Iowa State Normal; B. S., 1904
Bowman, John Gabbert, B. A., 1899
Brown, Florence Emily, B. Ph., 1892
Chawner, Mary Grove, B. A., 1896, Penn College
Egan, George William, B. A., 1900; LL. B., 1901
Hearst, Mamie Frances, B. Ph., 1899
Hunt, Percival, M. Di., 1897, Iowa State Normal; B. A., 1900
Ishizawa, Kyugoro, 1898, Univ. of Waseda; 1899, Tokio College of Law
Kent, Grace Helen, B. A., 1902
Lorenz, Charlotte Marie, B. A., 1902
McGee, Alice Florence, B. Ph., 1901
Plock, Henrietta Dorothy, B. A., 1901
Resser, Jesse, B. Ph., 1903
Schiefelbein, Emil August, B. S., 1896
Starch, Daniel, B. A., 1903, Charles City College
Underwood, Joseph Harding, B. A., 1902, Western College
Wassam, Clarence Wycliffe, M. Di., 1900, Iowa State Normal; B. Ph., 1903

MASTER OF SCIENCE

Bailey, Frederick William, B. S., 1902
Branson, Laura House, M. D., 1885; B. S., 1901
Clearman, Hattie M., B. Ph., 1900
Edmondson, Charles Howard, B. Ph., 1903
Goodwin, James Gardner, B. S., 1899, Wesleyan University
Groendycke, Clara Louisa, B. S., 1900

Ilsley, Harry Eugene, B. S., 1899, Coe College
Johnson, Anna, B. A., 1903, Univ. of South Dakota
Kent, Carl Volney, B. S., 1904
Krause, Charles Schutz, B. S., 1902
Seaver, Fred Jay, B. S., 1902, Morningside College
Speidel, Ida Theresia, B. S., 1903

CIVIL ENGINEER

Clements, Melville Fisk, B. S., 1899

MATRICULATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Aurner, Clarence Ray — Tipton
M. Di., 1891, Iowa State Normal; B. Ph., 1903
Education, Political Science

Bailey, Frederick William — Iowa City
B. S., 1902; M. S., 1904
Ophthalmology, Physiology and Pathology

Bale, Christian Emil — Glenwood, Minn
B. A., 1904, Luther College
English Language, English Literature

Bartsch, Paul — Washington, D. C.
B. S., 1896; M. S., 1899
Conchology, Ornithology

Bell, William Bonar — Milton
M. Di., 1899, Iowa State Normal; B. A., 1902; M. S., 1903
Zoology, Morphology

Brown, Charles Calhoun — Iowa City
B. A., 1898, Coe College
Sociology, Ethics

Buffum, Hugh Straight — LeRoy
B. A., 1901; M. A., 1902
Education, Psychology

Burton, Harry Edward — Onawa
B. A., 1901; M. S., 1903
Mathematics, Astronomy

Dorcas, Herbert Clifford — Iowa City
B. Ph,. 1895; M. A., 1903, Columbia
Education, Psychology

Edmondson, Charles Howard — Iowa City
B. Ph., 1903; M. S., 1904
The Protozoa, Animal Biology

Ensign, Forest Chester — Council Bluffs
M. Di., 1895, Iowa State Normal; B. Ph., 1897; M. A., 1900
Education, Sociology

Ferson, Merton LeRoy — Iowa City
B. Ph., 1900; LL. B., 1901
Jurisprudence, Iowa History

Hoffsten, Conrad Emanuel — Rock Island, Ill.
B. A., 1897, Augustana College; B. Di., 1901, Theological Seminary
Philosophy, Greek

Kent, Grace Helen — Victor
B. A., 1902; M. A., 1904
Psychology, Philosophy

Lincoln, Charles Thayer — Iowa City
B. S., 1901, Massachusetts Institute of Technology
Organic Chemistry, Physiological Chemistry

Paarmann, Juergen Herman — Davenport
B. S., 1902; M. S., 1902
Alcyonaria, Entomology

Seaver, Fred Jay — Manson
B. S., 1902, Morningside College; M. S., 1904
Botany, Zoology

Sherwood, Mrs. Elizabeth Lewis — Iowa City
B. A., 1881, M. A., 1903
English Literature, English Language and Philosophy

Starch, Daniel — La Crosse, Wis
B. A., 1903, Charles City College; M. A., 1904
Psychology, Philosophy and Education

Sturm, Frederick Bernard — Iowa City
B. A., 1888, University of Michigan
German, Gothic and Old English

Wassam, Clarence Wycliffe — Iowa City
M. Di., 1900, Iowa State Normal; B. Ph., 1903; M. A., 1904
Sociology, U. S. History

Youngert, Sven Gustaf — Rock Island, Ill.
B. D., 1899; B. A., 1901, Augustana College
Philosophy, Psychology

MATRICULATES FOR THE DEGREE OF MASTER OF ARTS

Beaulieu, Leo Victor — Durant
B. A., 1904
Philosophy, Education

Burnett, George Ritter — Iowa City
1880, West Point; B. S., 1904; LL. B., 1904
Pol. Science; History

Dick, George Stuart — Red Oak
B. Di., 1887, Iowa State Normal; B. S., 1888; B. Ph., 1897, Cornell College
Psychology, Education

Ferriss, Emery Nelson — Toledo
B. Ph., 1904, Western College
German, English

Fitch, Harry Holland — Lytton
B. A., 1902
Latin, Greek

Foster, Mabel Marcella — Iowa City
B. Ph., 1899
Education

Golden, Ethel Rose — Vinton
B. Ph., 1898
English, Psychology

Haan, Frederike Barbara — Renville, Minn
B. A., 1904, University of Wisconsin
German, French

Heard, Mary Kathrina — North East, Penn.
Ph. C., 1892, University of Michigan; B. Ph., 1905 (In Course)
Physiology of the Eye

Hoffman, Mabel V. — Muscatine
B. A., 1904
Greek, Latin

Huggett, J. Percival — Cedar Rapids
M. Di., 1892, Iowa State Normal; B. Ph., 1903
Education, Economics

Jenner, Edwin Alexander — Indianola
B. S., 1903, Simpson College
Psychology, Education

Johnson, Joseph Oliver — Cedar Falls
M. Di., 1897, Iowa State Normal; B. Ph., 1904
Political Science, Economics

Johnson, Henry Charles — Decorah
B. Ph., 1903
Education, History

Kato, Tokio — Muramatsu, Japan
B. A., 1902, University of Tokio
Political Science, Economics

Lee, Judson Fiske — Wick
B. Ph., 1904, Des Moines College
Public Speaking, History

McLane, Arthur C. — Deepriver, N. Dak.
B. Ph., 1904
Political Science, Iowa History

Main, Herman Charles — Algona
B. A., 1905 (In Course)
French, Greek

Meade, Leonard Fletcher — Iowa City
B. S., 1903, Iowa College
U. S. History, Education

Merritt, Edith Whitney — Iowa City
B. Ph., 1903
German, French and Norse

Monnet, Julien Charles — Iowa City
B. Ph., 1892; LL. B., 1893
Political Science, Iowa History.

Murphy, Genevieve Beatrice — Iowa City
B. A., 1903
Latin, Education

Neander, Victor Theophilus — Sheyenne, N. Dak.
B. Ph., 1904
Economics

Nelson, Edmund Christian — Iowa City
M. Di., 1897, Iowa State Normal; B. Ph., 1904
U. S. History, Economics

Paine, Katherine — Iowa City
B. Ph., 1889
English Literature, Rhetoric

Paine, Sarah Olivia — Iowa City
B. Ph., 1905
English, History

Peebles, Bess — West Union
B. Ph., 1904, Upper Iowa University
English Literature, English Language

Pratt, Harlow Munson — Iowa City
B. S., 1903
Economics, English

Pratt, Mrs. Margaret Allie Tobin — Iowa City
B. Di., 1900, Iowa State Normal; B. A., 1903
Economics, German

Randall, Frank Hall — Denison
B. A., 1902
U. S. History, Education

Reed, Ivy Leslie — Odebolt
M. Di., 1900, Iowa State Normal; B. Ph., 1903
Education, Public Speaking

Rich, David W. — Wayland
B. A., 1902
Greek, Public Speaking

Rigby, Alice — Mt. Vernon
B. Ph., 1902, Cornell College
English Literature, English Language

Robinson, Alta Aileen — Iowa City
B. Ph., 1900
English Literature, Rhetoric

Schneider, Daniel Dietrich — Hinton
M. Di., 1902, Iowa State Normal; B. Ph., 1904
Economics, History of Iowa

Shuck, May — Iowa City
B. Ph., 1900
English, Sociology

Smith, Ethel Lenore — Ackworth
B. A., 1904, Penn College
German, French

Smith, Homer A. — Mt. Vernon
B. S., 1902, Cornell College
Ophthalmology and Otology, Physiology

Speidel, Mae Elizabeth Agnes — Iowa City
B. A., 1904
German

Stewart, Rolland MacLaren — Toledo
B. A., 1904
Education, Psychology

Swire, Ethelind — Iowa City
B. Ph., 1904
French, History

Tellier, Frank Ellsworth — Sutherland
B. A., 1898, Iowa College
English, Education

Voss, Hertha Louise — Davenport
B. Ph., 1904
French, German

Watters, William Oral — Fairfield
B. S., 1904, Parsons College
Public Speaking, History

Wiehr, Josef — Iowa City
B. Ph., 1904
German, Norse

Williams, Fern Marian — Tabor
B. A., 1903, Tabor College
Greek, Latin

Wolf, Bertha Sarah — Tipton
B. Ph., 1905 (In Course)
Latin, English

MATRICULATES FOR THE DEGREE OF MASTER OF SCIENCE

Albert, Fred, Jr. — Reinbeck
B. Ph., 1903
Internal Medicine, Animal Biology

Anderson, Rudolph Martin — Iowa City
B. Ph., 1903
Zoology, Animal Biology

Blythe, Edward Ellsworth — Williamsburg
B. Ph., 1900; M. D., 1904
Histology of the Eye, Pathology of the Ear

Byrnes, Ralph Leonidas — Iowa City
B. S., 1902
Bacteriology, Pathology and Pharmacognosy

Cameron, John Edwin — Cedar Rapids
M. Di., 1894, Iowa State Normal; B. S., 1892; M. S., 1895, Lenox College, B. S., 1895
Zoology, Botany

Charlton, Max Rosecrans — Clear Lake
B. S., 1903
Internal Medicine, Physiology and Psychology

Cogswell, John Wilkinson — Cedar Rapids
B. S., 1904
Pathology, Experimental Materia Medica

Crary, Archie West — Boone
B. S., 1897, Cornell College; LL. B., 1904
Ophthalmology, Pathology

Cronin, Sarah Elizabeth — Waukon
B. S., 1903
Mathematics, Astronomy

Ensley, Bruce — Iowa City
B. S., 1903, Penn College
Pathology, Histological Botany

Hanson, Clarence Henry — Ft. Dodge
B. S., 1903
Physiology, Pathology

Hockett, Seburn Waldo — Earlham
B. S., 1904
Geology, Chemistry

Hoover, Alden Robbins — Muscatine
B. S., 1902
Embryology, Histology

Hudson, Jessie Blanche — Hampton
B. S., 1893, Iowa State College
Pathology, Physics

Ivins, Harry Morgan — Grundy Center
B. S., 1904
Animal Biology, Physiology

Kleinsorge, Rudolph Ernst — LeMars
B. S., 1904
Physiology, Physiological Chemistry

Kuntz, Albert — Ridgeway
B. A., 1904, Charles City College
Mathematics, Physics

Meade, James Albert — Iowa City
B. S., 1900, Iowa College
Physics, Mathematics

Mueller, Eugene Frederick — Denison
B. A., 1902
Mathematics, Physics

Quaife, Laurence Albert — Nashua
B. Ph., 1903, Iowa College
Pathology, Pathological Preparations

Royal, Malcolm Allen — Des Moines
B. S., 1904
Pathology, Experimental Materia Medica

Seymour, Edith Maria — Iowa City
B. S., 1899
Entomology

Taylor, Maude Estella — Iowa City
B. S., 1904
Refraction, Biology

Watson, Emery Ernest — Stockport
M.Di., 1901, Iowa State Normal; B. S., 1905 (In Course)
Mathematics, Physics

MATRICULATE FOR THE DEGREE OF CIVIL ENGINEER

Lovell, Frederick William — Cleveland, Ohio
B. S. in C. E., 1894
Engineering

MATRICULATES NOT CANDIDATES FOR DEGREES

Barrett, Mary Emily — Iowa City
B. Ph., 1896
English

Biggs, Mrs. Eleanor Startsman — Iowa City
B. Ph., 1887; M. A., 1890
English, Greek

Cavanagh, Lucy Mary — Iowa City
B. S., 1896
Botany

Chawner, Mary Grove — Indianapolis, Indiana
B. A., 1896, Penn College; M. A., 1904
English

Coldren, May-Belle — Iowa City
B. Ph., 1898
Latin

Colling, Edward Robert — Iowa City
B. S., 1902; M. A., 1903
Education

Copeland, Helen Louise — Iowa City
B. Ph., 1888
English

Drake, Guy Arthur — Adel
B. S., 1905
Engineering, Geology

Freeman, Mae Agnes — Iowa City
B. Ph., 1897; M. A., 1898
History

Hunt, Percival — Cedar Falls
M. Di., 1897, Iowa State Normal; B. A., 1900; M. A., 1904
English

Kastman, Valborg — Bethlehem, Penn.
B. A., 1904
Philosophy

Kent, Carl Volney — Marshalltown
B. S., 1904; M. S., 1904
Mathematics, Physics

Knapp, Leo Augustus — Fremont, Neb.
B. S. in C. E., 1900
Engineering

Lochridge, Harvey Hayes — Iowa City
B. S., 1901, Beloit College
Chemistry

Loos, Mrs. Mary Alice Dickson — Iowa City
B. A., 1883, Otterbein University, Ohio
Public Speaking

Otto, Clementine — Iowa City
B. Ph., 1896
Education

Quigley, Sarah Ruth — Iowa City
B. Ph., 1902; M. A., 1903
English

Rule, Edward Acomb — Des Moines
B. S., 1904
Psychology

Rutledge, Herbert Alvin Ingram — Williamsburg
B. M. E., 1894, Iowa State College; B. S., 1904
Philosophy, Animal Biology

Stone, Mrs. Redelia Gilchrist — Yonkers, N. Y.
B. Ph., 1895
French

Stover, Bessie Esther — Iowa City
B. S., 1901
Education

Van Epps, Clarence — Iowa City
B. S., 1894, Iowa State College; M. D., 1897; M. D., 1898, University of Pennsylvania
Philosophy

Von Ende, Mrs. Alice Ankeney — Iowa City
B. A., 1897, Wells College
Chemistry

Wickham, Mrs. Fanny Thompson — Iowa City
B. S., 1890; M. S., 1895
Greek Art

SUMMARY

Candidates for the degree of Ph. D.	22
Candidates for the degree of M. A.	47
Candidates for the degree of M. S.	24
Candidates for the degree of C. E.	1
Students not candidates for degrees	24
Total	118

In addition to the above there are forty-four graduate students registered for work in the Summer Session. See pages 508–511. The total attendance in the Graduate College is therefore 162.

THE COLLEGE OF LAW

DEGREES CONFERRED JUNE, 1904.

Allen, Frank J.
Brown, Edwin Keech
Burnett, George Ritter
  1880, West Point; B. S., '04
Burrus, James Harvey
  B. A., 1901
Byers, Frank Crockett
Cole, Franklin James
Cook, Roy Arthur
  B. A., 1901
Crary, Archie West
  B. S., 1897, Cornell College
Cross, John Eli
Diamond, Tobias Ellsworth
Dunham, Ralph Abner
Emmons, Orrin William
Estes, Joel Stollings
  B. A., 1894, Lincoln
    Normal College
Fitzpatrick, Daniel Helen
Fortner, Frank Ellis
Genung, Norman Seth
Gray, Ross Calhoun
Haddock, Ross Boyd
Herrick, William Carl
  B. L., 1900, The Univer-
    sity of Wisconsin
Humphrey, Benton Wade
  B. Ph., 1899, Cornell College
Johnson, Daniel Graham
Johnston, Albert Cleland
Kahler, Waldo Emerson
Kenderdine, Glenn Albert
Kimball, Franklin Burton
Kirby, James Francis
  B. Ph., 1902
Klise, Harrold Edward
Koser, George Doner
Kuhlemeier, Harry Floyd
Lane, Dick Richardson
Law, William Robert
Linville, Guy Pittman
Longueville, Oliver
McCord, Ray Afton
McCoy, Edward Hugh
Martin, Frederick Alonzo
Mercer, Herbert Miller
Ratcliff, William Conner
Ridgeway, William Bailey
Schiefelbein, Emil August
  B. S., 1896, Upper Iowa
    University
Shannahan, Edwin Joseph
Spurgeon, Theodore
Storey, Leslie
  B. Ph., 1902
Stuart, Charles Edward
Sutherland, Charles Ross
  M. Di., 1899, Iowa State
    Normal

White, Wilmer Welrose
Whiting, Samuel Danforth
B. A., 1896
Wieben, Edward Emil
Will, Charles Louis
Willett, James Horace
B. A., 1901
Willging, Edgar Henry
Williamson, Ralph Clinton
B. Ph., 1902

THIRD YEAR

Alford, Lore	Waterloo
Algyer, Harold Mills	Paullina
Baughn, Wilmot Lawson	Harlan
Benshoof, Chester William	Stockton
Bryant, Jesse Chilton	Griswold
Burgeson, Henry Adolph	Kensett
Burmeister, August Otto B. Ph., 1903.	Adair
Cox, Guy	Missouri Valley
Davis, Charles George	Geneseo, Ill.
Dickson, Charles Frank	Manning
Dougherty, Ira Elmer	Lake City
Douglass, Floyd Marion	Lehigh
Dunn, Delbert	Cherokee
Dykstra, Sylvester Henry B. A., 1902	Rochester, N. Y.
Freeman, Earnest Franklin	Emmetsburg
Garretson, Gail Garfield	Atlantic
Gorman, George Curran	Anamosa
Greene, Galen Edwin B. A., 1903	Greene
*Hampson, John Albert	Osage
Hayden, Ulysses Grant M. Di., 1901, Iowa State Normal	Wapello
Jeffers, Clyde Garfield	Hampton
Johnson, Lewis Gerhard B. A., 1902, Luther College	Roland
Jones, Nyle William	Iowa Falls
Keck, Walter L. B. Ph., 1903	Maquoketa
Kelly, Daniel Matthew	Blessing
Lamprecht, John	Eldora

Lynch, John Daniel	Sioux City
McLaughlin, Joseph Edmund	Wapello
McNett, Walter	Ottumwa
Maennel, Claude Frederick	Correctionville
Malmberg, Edward Philip	Newton
Miller, Albert Elias	Denison
Moffitt, Horace Barclay	Newton
Mosher, Orris, Jr.	Walnut
Neander, Victor Theophilus	Cheyenne, N. D.
B. Ph., 1904	
Noel, Charles Elbert	Iowa City
O'Brien, Richard Joseph	Independence
Oelkers, Leroy Carl	Davenport
Osborn, Wayne McVeigh	Rippey
Pratt, Harlow Munson	Iowa City
B. S., 1903	
Rich, David W.	Wayland
B. A., 1902	
Roche, Thomas Francis	Clarence
B. A., 1892, Cornell College	
Ryan, John Joseph	Muscatine
Scallon, Hubert William	Ackley
M. Di., 1901, Iowa State Normal; B. Ph., 1903	
Schoenman, George Adolph	Des Moines
LL. B., 1904, Drake University	
Smith, Curtis Wales	Mexico, N. Y.
Spangler, Harrison Earl	Adair
B. Ph., 1903	
Stanfield, Sidney Evert	Lake City
Stevenson, Oliver Warren	Fayette
B. Ph., 1901, Upper Iowa University	
Swindle, Anthony J.	Ryan
Vaughn, John Thomas	Ft. Dodge
Walrod, Claude Delestine	Onslow
B. A., 1895	
Wyckoff, Fletcher Felix	Centerville

SECOND YEAR

Barker, Erwin Jeremiah	Cresco

Barnes, Charles Raymond	Tabor
B. A., 1903, Tabor College	
Caldwell, Johnston Eakins	Mt. Hamill
Campbell, Ed Hoyt	Battle Creek
Catlin, Frank Milo	Creston
Chalmers, John George	Iowa City
B. A., 1901, Lafayette College, Penn.	
Christy, Adelbert	Floris
Cross, Cash R.	Iowa City
B. S., 1904	
Cutler, William Alden	Centerville
B. Ph., 1903, Des Moines College	
Davis, Charles Henry	Greeley
DeCou, Samuel Roland	Woodbine
Dennis, Louis Denton	Cedar Rapids
Drewry, Ray Forest	Sac City
B. Ph., 1903	
Edwards, Arthur Clement	Epworth
B. A., 1898, Upper Iowa University	
Floren, Sigfred Emanuel	Gowrie
Forsyth, Lawrence Ray	Griswold
Green, Thomas William	Sioux City
Greene, Harry Martin	Avoca
Gunderson, Carl Oscar	Kensett
Haney, Homer Eddison	Oregon, Ill.
Hart, William Richard	Oelwein
Hedges, Bruce Emerson	Marengo
Hill, George Edgar	Burlington
B. Ph., 1903	
Ink, Floren Lewis	Mt. Vernon
Kelly, James Edwin	Hudson
Kunz, John Franklin	Wesley
B. Ph., 1904	
Lambert, Clarence Joseph	Adrian, Ill.
Lawrence, Arthur Garfield	Hopkinton
B. S., 1903, Lenox College	
McDowell, Earl	Ames
McGowan, Alvah Earl	Clear Lake
McHugh, Roderick Emmet	Sioux City

Meakim, Roger Joseph B. S., 1904	West Burlington
Miller, Claude Melvin	Iowa City
Moon, John Clarence	Griswold
Neas, Harry Mackey	Sigourney
Overbaugh, John Edwin B. Ph., 1903, Cornell College	Clarion
Paige, Constant Anton	Laurens
Pasley, Crockett Hector	Nevada
Perkins, Daniel R. B. Ph., 1901	Carson
Ramseyer, Christian William M. Di., 1902, Iowa State Normal	Bloomfield
Salinger, Benjamin Isaac, Jr.	Carroll
Salinger, Louis Howard	Carroll
Schneider, Daniel Dietrich M. Di., 1902, Iowa State Normal; B. Ph., 1904	Hinton
Severin, Carl Frederick	Cedar Falls
Sifford, Ross	Wall Lake
Sims, Walter Lawson	Newton
Smith, Stanley Rulief	Osage
Steck, Daniel Fredric	Ottumwa
Taylor, Thomas Blaine, Jr. B. A., 1902, Cornell College	Hampton
Thompson, Fred F. B. A., 1903, Cornell College	Brooklyn
Walker, Henry Grass	Iowa City
Walker, Traffer V.	Denison
White, Warren Henry B. A., 1904	Iowa City
Wray, Frederick E.	Curtis
Yessler, Joseph Urvin B. Ph., 1902, Coe College	Western College

FIRST YEAR

Atkinson, William Ira	Clarksville
Bailey, Hugh Lee	Iowa City
Barnard, Charles Robert B. Ph., 1904, Iowa College	Clarion
Barney, Hiram, Jr.	Keokuk
Barrick, Edward Joseph	Des Moines

Barton, Frank James	Ft. Dodge
Baughn, Herbert Adams	Harlan
Boland, James McNamara	Dubuque
Bracewell, Hollie Broughton	Corydon
B. Ph., 1889, The University of Michigan	
Brady, Albert Verne	Sanborn
Burkheimer, Clarence Dean	Creston
Burkheimer, John Emmett	Creston
Carlson, Elof Julius	Meriden
Churchill, Howard Rollin	Cedar Rapids
B. Ph., 1901, Cornell College	
Cronin, John Francis	Marengo
Cushing, Raymond George	Exira
B. A., 1904	
DeVries, George Gabriel	Parkersburg
Edwards, William C.	Epworth
Evans, John Wesley	Decatur, Ill.
Frink, Earle Doane	Des Moines
Grow, Oscar	Osage
Hammill, George, Jr.	Britt
Harding, Lee R.	Clinton
Henneger, Henry	Bellevue
Hunt, Heman Doud, Jr.	Shell Rock
B. Ph., 1904	
Jackson, George Brown	Toledo
B. A., 1901, Western College; B. A., 1902, Yale College	
Johnson, Otis Carl	Dows
Jordan, John Walter	Boone
B. S., 1904, Iowa State College	
Kelley, Emmet Joseph	Ft. Dodge
Kelley, James Edmund	Lamoni
Kerberg, Sidney Conkey	Sanborn
Kluckhohn, George Wesley	Le Mars
Ladd, Clarence Estabrook	Estherville
Lamb, James J.	Davenport
Lamm, Louis A.	Harlan
Lantry, Charles Cleveland	Algona
Law, Harvey Edward	Waterloo
McClure, Clyde W.	Marsh
McMurray, William Berlin, Jr.	Savannah, Ga.

McPartland, George Parnell	Burlington
MacArthur, Wheaton Alexander	Burt
Maher, Frank C.	Ft. Dodge
Maxwell, Marion Dexter	Henderson
Miller, Emil John	Manning
Narey, Harry Ellsworth	Spirit Lake
Nichol, Frank A.	Albia
Parsons, Harry Olin	Rock Rapids
Rathbun, Don Seavey	Kingsley
B. S., 1904, Cornell College	
Reed, James Paul	Muscatine
B. S., 1902, Valparaiso College	
Rhodes, Dorsey L.	Correctionville
Rogers, Howard Omar	Cedar Falls
Rue, Ole O.	Ridgewood
Schenk, Ernest Alvin	Clinton
Scherling, Louis Conrad	Parkersburg
Schnare, Frederick William	Davenport
Sherman, Ray Eugene	Ft. Dodge
Simpson, Samuel S.	Axtell, Kansas
Smith, Paul Warren	Waterloo
Streff, Joseph Nicholas	Alton
M. Di., 1904, Iowa State Normal	
Stuart, Hugh Patrick	Dubuque
Thom, George, Jr.	Correctionville
Walter, Earl Philip	Hartley
Watson, Grover Cleveland	Iowa City
Watters, William Oral	Fairfield
B. S., 1904, Parsons College	
Weil, LeRoy Louis	Blairstown
Weston, Marsdon Everett	Iowa City
Wilson, George Allison	Menlo
Winslow, Asa Irving	Iowa City
B. A., 1902; M. A., 1903, Dartmouth College	
Woodward, Carleton Hutchins	Council Bluffs

UNCLASSIFIED

Collinson, William	Chariton
Krebs, William Hutchinson	Carroll
Rapck, Lee Everett	Dallas City, Ill.

Roddewig, Louis Ernest	Davenport
Sulek, Edward	Solon

COMBINED COURSE

Burnquist, Bert Blaine	Ft. Dodge
Fay, Wylie Webb	Nevada
Files, Ray	Iowa City
Goodwin, James Edwin	Burt
McCullough, Clara Elizabeth M. Di., 1903, Iowa State Normal	Osage
Phelps, Henry Hurst	Springdale
Redfield, Roy Addis	Ruthven
Ross, Carl Wesley	Decatur, Ill.
Skelley, Silas Emmett	DeWitt
West, Philip Cecil	Irwin

SUMMARY

Third Year	53
Second Year	55
First Year	69
Unclassified	5
Combined Course	10
Total	192

THE COLLEGE OF MEDICINE

DEGREES CONFERRED JUNE, 1904.

Allen, Roy William
Arnett, Lillie Amanda
Baldwin, Clare C.
Blythe, Edward Ellsworth
B. Ph. 1900
Boots, Frederic Warner
*Bowman, Howard Edgar
Briggs, Stewart Daniel
B. A. 1892; M. A., 1893
Leland Stanford, Jr.
University.
Brown, Florence Emily
B. Ph. 1892; M. A., 1904
Carle, Frank Clifford
Coulthard, George Harry
Crane, Edward Harrison
Crane, Eudell Thomas
Cross, Frank Wallace
Day, Archie Loraine
Dunn, John Edward
Edmonds, William Frank
Fitz, Joseph Hamilton
Foulk, Frank Erastus
B. S., 1901, Des Moines
College
Gordon, William Null
Gray, Oscar Sylvester
Hearst, George Edward
Houser, Cass Thomas
Irwin, Perle Clifton
Jones, Harry Jacob
Krause, Charles Shutz
B. S., 1902; M. S., 1904
Kulp, Ray Ranney
McDermott, Peter John
Martindale, William Harvey*
Middelton, Edward Duncan
Naftzger, Jesse Blaine
Pease, Herbert
Robb, Robert Worth
Rosenbladt, Fritz
Safley, Agnes Isabel
B. S., 1899
Sauerbry, Frank Carl
Schroeder, Peter Herman
Sebern, Richard Clyde
Seymour, Sarah Libbie
B. A., 1897; M. A., 1900.
Shahan, Richard Franklin
Sherbon, John Bayard
Siberts, Frank Leslie
Smeltzer, Cora Huldah
Smith, Charles Leonard
B. A., 1891
Souders, John Cloyd
Sullivan, Lawrence Francis
Swift, Charles Henry
Talcott, Don Deroy
Teufel, John Carl
Whitehead, Ellis Herbert

*Died February 1, 1905.

GRADUATE STUDENTS

Cross, Frank Wallace	Leon
M. D., 1904	
Mullarky, Hugh	Manson
M. D., 1889	

FOURTH YEAR

Allen, Ray Wallace	Waterloo
B. S., 1902	
Atkins, George Leslie	Spirit Lake
Bailey, Frederick William	Iowa City
B. S., 1902; M. S., 1904	
Bailey, John William	Iowa City
Besore, Albert Leroy	Ida Grove
Blackmore, Harriet Narcissa	Aplington
Blair, Fred Leroy	Yetter
Bowers, Bert Alfred	Paullina
Bowie, Louis Lee	Atalissa
Bowser, William Francis	Buffalo
B. A., 1898, Parsons College	
Brackney, Herman John	Washta
Briggs, Francis William	Oskaloosa
B. S., 1899, Penn College	
Brown, Joe Wesley	Atlantic
Busta, Charles	Manley
Christiansen, James	Waterloo
M. Di., 1901, Iowa State Normal	
Collins, Joseph Sylvester	Geneseo, Ill.
Conmey, Roy Merrill	Wyoming
Dunkel, George Kaspar	Iowa City
Echternacht, Arthur Charles	Mechanicsville
Ellyson, Charles Wright	West Liberty
B. S., 1901, Cornell College	
Ericsson, Charles Melvin	Dayton
Etzbach, Joseph Frank	Mendota, Ill.
Fallows, Howard Daniel	Waucoma
Fox, Walter Henry	West Union
Goff, Harry LeRoy	DeWitt
Griffin, Frank Leo	Monmouth

Hall, Ray Edwin	Webster City
Hands, Sidney Gillott	Iowa City
Hanson, Clarence Henry	Ft. Dodge
B. S., 1903	
Happe, Francis Alfred	Grandville
Heard, Mary Kathrina	North East, Pa.
Ph. C., 1892, The University of Michigan	
Hexom, Johan Daniel	Wash. Prairie
B. A., 1901, Luther College	
Hoffman, Paul McConnell	Muscatine
B. S., 1901	
Hoover, Alden Robbins	Muscatine
B. S., 1902	
Householder, Harold A.	Stockport
Jaenicke, Kurt	Clinton
Joynt, Martin John	Emmetsburg
B. S., 1903	
King, Thomas Andrew, Jr.	Monticello
Krider, Edward Edson	Waterloo
Lynn, Arthur Ray	Iowa City
Long, Thomas Lee	Cherokee
B. Di., 1900, Iowa State Normal	
Matson, John Archie	Kossuth
B. S., 1903	
Maurer, Harvey Charles	Beloit, Wis.
Morton, William Glasspell	Iowa Falls
Murphy, Frank Eugene	Iowa City
Nimocks, Sara Ausbon	Ida Grove
Noland, Clyde Amandee	Boone
Prescott, Lee Washbon	Sioux City
Richey, Albert Roy	Lone Tree
*River, Edward Burleigh	Cresco
Sells, Benjamin Bert	Winthrop
Soper, Fred Clifford	Mt. Vernon
Stelling, Charles Henry Andrew	Iowa City
Stockdale, Charles Paul	Lowder, Ill.
Stoltenberg, Walter Peter	Shelby
Thomas, Clarence I.	Cresco
Thompson, James Reed	Shell Rock
Thornburg, William Vestal	Linden

*Died March 12, 1905.

Turner, Edward Marsh	Iowa City
Van Metre, Richard Thompson	Waterloo
Vaughan, Claude Luverne	Coon Rapids
Walker, Evahn Russell	Oelwein
B. S., 1900, Iowa State College	
Weir, Matt Blakely	Cumberland
Wolverton, William Curtis	Ft. Dodge
Yavorsky, George William	Iowa City

THIRD YEAR

Albert, Fred, Jr.	Iowa
B. Ph., 1903.	
Biebesheimer, George Allen	Iowa
Boller, William Fred	Iowa
Brisbine, Royal Ellis	Iowa
Brown, Harry William	Iowa
Burroughs, Paul Revere	Iowa
B. S., 1902, Drake University	
Byrnes, Ralph Leonidas	Iowa
B. S., 1902	
Charlton, Max Rosecrans	Iowa
B. S., 1903	
Crary, Archie West	Iowa
B. S., 1897, Cornell College; LL. B., 1904	
Cretzmeyer, Frank Xavier	Iowa
Cuthbert, William Henry	South Dakota
Darland, Fred Lambert	Iowa
Davis, John Graham	Iowa
Decker, Herbert Morgan	Iowa
D. D. S., 1898	
Durkee, Harry Charles	Iowa
Gray, Martin Luther	Iowa
Harned, Calvin Waldo	Iowa
D. D. S., 1903	
Hartwell, Samuel Willard	Iowa
Hennessy, Albert Vincent	Iowa
Jarvis, Harry Dwight	Iowa
Keehl, Walter Edward	Iowa
D. D. S., 1903	Iowa
Kessler, James Claude	Iowa

Lindsay, Harry Alexander	Iowa
Lott, Guy Alexander	Iowa
Love, Francis Leonard	Iowa
McGregor, James Charles	Iowa
McLean, Ray Allyn	Iowa
B. S., 1900, Upper Iowa University	
McMahon, Thomas	Iowa
Maher, Thomas Augustine	Iowa
B. A., 1902, St. Mary's College, Kansas	
Maris, Gerrit	Iowa
Messenger, Fred Henry	Iowa
Moore, Walter Newlon	Iowa
Mullin, William	Iowa
Murphy, Harry Wilton	Iowa
Negus, Alvah	Iowa
B. A., 1890; M. A., 1899, Penn College.	
Negus, Mrs. Cora Weber	Iowa
Orr, William Graham	Iowa
Quaife, Laurence Albert	Iowa
B. Ph., 1903, Iowa College	
Rowe, Frank Noyes	Iowa
Savage, Samuel Micajah	Iowa
Smith, Homer A.	Iowa
B. S., 1902, Cornell College	
Starr, Charles Freeman	Iowa
Struck, Kuno Herbert	Iowa
Stuhler, Louis George	Iowa
Taylor, Maude Estella	Iowa
B. S., 1904	
Thornburg, Willard Newell	Iowa
Tierney, Charles Matthew	Iowa
Wessel, Perry	Illinois
West, Walter Ernest	Iowa
White, Edward Harvey	Iowa
Wickman, Herman John	Iowa
Williams, Creighton David	Iowa
Woods, Arthur Daniel	Iowa

SECOND YEAR

Allen, George Henry	Iowa
Arthur, William Richard	Iowa
Barker, Ernest Edward	Iowa
Barnett, Reu Lee	Iowa
B. Di., 1903, Iowa State Normal	
Benedict, Byron Irvin	Iowa
Bittner, Edward William	Iowa
Bone, Merle	Iowa
Bowie, Cecil Claude	Iowa
Breen, William	Iowa
Brittell, Chancey Lee	Iowa
Burket, John Anson	Iowa
Cadwallader, Joseph Maxwell	Iowa
Carter, Edward Albert	Iowa
B. Ph., 1903	
Cocklin, William Karl	Iowa
Cook, Fred Sutton	Iowa
Dixon, Arthur	Massachusetts
Donovan, William Henry	Iowa
Doran, Thomas Cyrus	Iowa
Eland, Thomas Longley	Iowa
B. Di., 1900, Iowa State Normal	
Ensley, Bruce	Iowa
B. S., 1903, Penn College	
Farrell, John Hogan	Iowa
Fitzpatrick, John Michael	Iowa
Garvin, Thomas Martin	Iowa
Glase, Robert Lincoln	Utah
Gonterman, Emery Oliver	Iowa
Harken, Conreid Rex	Iowa
Hayden, Clara May	Iowa
Hennessy, Felix Alphonsus	Iowa
Hobart, Agnes Jane	Iowa
Hotze, Charles	Iowa
Howell, Elias Burton	Iowa
Hudson, Jessie Blanche	Iowa
B. S.; B. L., 1893, Iowa State College	
Huntington, Bert Roy	Iowa
Jaynes, Manning	Iowa
M. Di., 1898, Iowa State Normal	

Kelly, Ray Arthur	South Dakota
Kleinsorge, Rudolph Ernst	Iowa
B. S., 1904	
Leipold, Arthur Thomas	Illinois
Malmgren, Theodore John	Iowa
B. A., 1903, University of South Dakota	
Martin, George Henry	Iowa
Meents, Diedrich Janssen	Illinois
B. S., Steinmann College	
Neuzil, William James	Iowa
Oldag, George Charles	Iowa
Reed, Paul	Iowa
Roberts, Vernon	Iowa
Sackett, Roy Floyd	Iowa
Salisbury, James Hal	Iowa
Schenck, Charles Plume	Iowa
B. S., 1904	
Schipfer, Lloyd Albert	Iowa
Schmidt, Adolph Otto	Iowa
Seerley, Clem Clifford	Iowa
M. Di., 1901, Iowa State Normal; B. S., 1904	
Stecker, Mrs. Bertha Elizabeth Schenck	Iowa
Stewart, William Lloyd	Iowa
Toeller, John Joseph	Iowa
Valkenaar, Frederick William	South Dakota
Voss, Otto Rudolph	Iowa
Ward, Everett Chapman	Iowa
Wells, Nelson Dave	Iowa
B. Phr., 1901, Iowa Wesleyan University	
Wilkinson, Levi Jennings	Iowa
Willson, Mrs. Marian Orr	Iowa
Wintenburg, Edward J.	Iowa
Woodcock, Dick	Iowa

FIRST YEAR

Ayers, Frank	Iowa
Baer, DeWitt	Iowa
Baker, John Elmer	Iowa
Beard, Guy Edward	Iowa

Bemis, George Arthur	Iowa
Blattspieler, Arnold Charles	Iowa
Bosley, Carl Estep	Iowa
Bradley, Frank Timothy	Iowa
Brandt, Herbert Oscar	Iowa
Brinton, William Thomas	Iowa
Bruechert, Henry Nicholas	Illinois
Burns, Richard Earl	Iowa
Butts, Charles Edwin	Iowa
Clark, Leslie William	Iowa
Creamer, Frank Harrison	Iowa
Crow, Ira Nelson	Iowa
Davis, Leonard Josiah	Iowa
Deily, Henry Clay, Jr.	Iowa
Devine, John Andrew	Iowa
Donelan, James Jay	Iowa
Elmore, Stewart Bertram	Iowa
Farnsworth, Frank Wilkinson	Iowa
Ferguson, Josiah Arthur	Iowa
Franklin, James Garfield	Illinois
Herrick, Rupert Connor	Iowa
Houston, Bush	Iowa
Jordan, Ralph Emerson	Iowa
Kimball, John E.	Iowa
Knox, Thomas Clifford	Iowa
Leith, George Guyford	Iowa
Loes, Anthony Michael	Iowa
McElderry, Donald	Iowa
McGuire, Roy Alvin	Iowa
McQuillen, Charles Walch	Iowa
Mann, Harry H.	Iowa
Marcy, Guy Elliott	Washington
Ph. G., 1904, Vashon College, Washington	
Matteson, George William	Pennsylvania
M. E., 1901, Edinboro State Normal, Pennsylvania	
Merlein, Heike Robert	Iowa
Mighell, Winfred	Iowa
Miller, Harry Arthur	Iowa
Missman, Walter Frank	Iowa
Netolicky, Joseph	Iowa
B S., 1904, Coe College	

Newbern, Lester F.	Iowa
Newell, Harris Andrews	Iowa
Olson, Clarence Leonard	Iowa
Ringena, Elgelke Janssen	Iowa
Rockwood, Merle Clinton	Minnesota
Runyon, Will D.	Iowa
Sather, Allen	Minnesota
Scribner, Charles Edward	Iowa
Shine, Dan W.	Iowa
Slyfield, Frederick Albert	Iowa
Smith, Edgar Francis	Iowa
Spicer, Frank William	Iowa
B. S., 1899, Coe College	
Stoehr, Gustave Llewellyn	Iowa
Ph. G., 1897, Valparaiso College, Indiana	
Strong, Arthur Churchill	Iowa
Tanner, Lawrence John	Iowa
Tripp, Le Roy Richard	Iowa
Vollum, Edward Oscar	Minnesota
B. A., 1904, Luther College	
Wachenfeld, Carl Henry	Iowa
Williams, Thomas Jefferson	Iowa
Woodhouse, George Raymond	Iowa
Woodworth, Leonard Forrest	Iowa

UNCLASSIFIED

Anderson, Rudolph Martin	Iowa
B. Ph., 1903	
Ankrum, Fred Leslie	Iowa
Ph. G., 1903, Highland Park College	
Bawden, George Stephen	Iowa
Dolmage, George Francis	Iowa
Hartley, George A.	Iowa
Henneger, William Andrew	Iowa
Hurley, William James	Iowa
Kidd, Floyd Snelson	Iowa
Leonard, Bertram Bryant	Iowa
Patterson, Alpheus Wood	Iowa
Richards, Carl Ernest	Iowa
Schrader, Elmer Anthony	Kansas
D. D. S., 1901	

Shekwana, Paul	Iowa
Shine, Ben Richard	Iowa
Wilson, Clarence Erroll	Iowa

THE NURSES' TRAINING SCHOOL

CERTIFICATES CONFERRED JUNE, 1904.

Martin, Bernice Fidelia — Somes, Candace Amelia
Schley, Freda Claire — Turk, Helen

THIRD YEAR

De Garmo, Lutie Parmelia	Iowa
Errickson, Margaret Nina	Iowa
Mahood, Sarah	Canada
Millard, Bessie Pearl	Minnesota
Rooney, Mary Regina	Iowa

SECOND YEAR

Lins, Leta Wilhelmina	Iowa
Myers, Rena Emily	Iowa
Robertson, Mae	Canada
Broadie, Jane Isabel	Iowa

FIRST YEAR

Curtis, Edna	Iowa
Everett, Dolorosa E.	Iowa
Hamilton, Mary	Iowa
Metcalf, Agnes	Iowa
Miller, Ida May	Iowa
Murdock, Marie Genevieve	Illinois
Rush, Mary	Iowa
Seeds, Bertha Willa	Iowa
Sweitzer, Jennie	Iowa

SUMMARY

Graduate Students	2
Fourth Year	65
Third Year	53
Second Year	61
First Year	63
Unclassified	15
Nurses' Training School	18
Total	277

THE COLLEGE OF HOMEOPATHIC MEDICINE

DEGREES CONFERRED JUNE, 1904

Adrian, Frank
Bond, David Kline
B. S., 1881, Iowa State Normal
Greene, Lynne Birdsall
Hand, George
Jacobsen, Robert Andrew
Lintleman, Fred Richard
Loizeaux, Charles Edward
Rogers, Ernest Albert
D. D. S., 1892
Rowat, Harry Lewis
B. S., 1901, Des Moines College

GRADUATE STUDENTS

Oyler, Norman D.
M. D., 1896
Wilson, John West
M. D., 1894

FOURTH YEAR.

NAME	RESIDENCE	PRECEPTOR
Clark, Carl George	Iowa	Dr. C. W. Spaulding
Humeston, Frank Enos	Iowa	Dr. E. C. Kauffman
Ingersoll, Perry Grant	Iowa	Dr. H. M. Humphrey
Kaufman, Ernest Leslie	Iowa	Dr. F. T. Launder
Macomb, Thomas T.	Iowa	Dr. W. A. Hamilton
Okerlin, Oscar William	Iowa	Drs. Humphrey and Kauffman
Parsons, Harry Clifford	Iowa	Dr. C. M. Morford
Quaife, Howard Herman D. D. S., 1903	Iowa	Faculty
Volland, Roscoe Henry D. D. S., 1902	Iowa	Faculty

THIRD YEAR

Alden, Frederick	Iowa	Dr. C. J. Loizeaux
Bott, George Floyd	Iowa	Dr. F. A. Strawbridge
Cogswell, John Wilkinson B. S., 1904	Iowa	Dr. C. H. Cogswell

Ihle, Charles William	Iowa	Dr. W. A. Hamilton
Kingsbury, Ernest Mills	Iowa	Dr. George Royal
Royal, Lester Ambrose	Iowa	Dr. George Royal
Royal, Malcolm Allen B. S., 1904	Iowa	Dr. George Royal
Wildman, Murry	Iowa	Dr. C. C. Gethman

SECOND YEAR

Felt, Garnett Smith	Mich.	Dr. G. A. Huntoon
Landis, Henry Faris D. O., 1903, Still College of Osteopathy	Iowa	Faculty
Lewis, David Sylvester	Iowa	Dr.B. R. Johnston
Mosby, George	Iowa	Dr. F. Becker
Palmer, Ashley Bennett	Wash.	Dr. E. E. Beckett

FIRST YEAR

Aborn, Claude Elmer	Iowa	Dr. B. R. Johnston
Alden, Clyde Cleveland	Iowa	Dr. L. B. Carson
Brush, Milo Orion	Minn.	Dr. Thomas Lowe
Bywater, Joseph Beauregard	Iowa	Dr. F. T. Launder
Cron, Cyril McLane	Iowa	Dr. J. S. Cron
Dice, Harland Everett	Iowa	Dr. L. W. Struble
Drake, Fred Edwin	Iowa	Dr. E. C. Kauffman
Gregg, Orion Russell	Iowa	Drs. Humphrey and Kauffman
McCall, John Harvey	Iowa	Dr. W. E. Anderson
McClean, Earl Derward	Iowa	Dr. E. C. Kauffman
Manahan, Charles Albert	Iowa	Dr. M. A. Newland
Masson, Hervey Fulton	Iowa	Dr. W. E. Anderson
Park, Paul Archibald	Iowa	Dr. B. R. Johnston
Power, Claude A.	Iowa	Dr. J. S. Cron
Scheib, Alvin Peary	Iowa	Dr. L. B. Carson
Sentman, Harry Palmer	Iowa	Dr. E. C. Kauffman

NURSES' TRAINING SCHOOL

CERTIFICATES CONFERRED JUNE, 1904

Brown, Adelyn Ethel — Rhodes, Charlotte Alice
McWilliams, Martha Fern

THIRD YEAR

Cates, Ora W.	Iowa
Clark, Sarah Beatrice	Iowa
Engeldinger, Susan	Iowa
Rich, Harriett Elise	Iowa
Trier, Sadie	Iowa

SECOND YEAR

Denne, Susanna Rosamond	Iowa
Dunham, Elsie Martha	Iowa
Seibert, Viola Rosetta	Iowa

FIRST YEAR

Dunham, Ethel Lucy	Iowa
King, Mabel	Iowa
Moyer, Ralpha	Iowa
Simmons, Effie Amber	Iowa

SUMMARY

Graduate Students	2
Fourth Year	9
Third Year	8
Second Year	5
First Year	16
Nurses' Training School	12
Total	52

THE COLLEGE OF DENTISTRY

DEGREES CONFERRED JUNE, 1904

Addington, Earl
Bidwell, Everett
Brock, Albert Jay
Burns, John Joseph
Cole, Alvernus Humphrey
Cutler, Earle VanZile
Dieffenbacher, Bemper Letson
Duncan, Alvia Lee
Eberhart, Frank Vaughan
B. S., 1902
Erb, Benjamin H.
Fear, Milo Francis
Frahm, Frederick William
Gardner, Charles Edward
Goldthwait, Guy Garfield
Hasek, Frank Vaclav
Hemsworth, Leroy Clifton
Hinsdale, Henry Vaughan
Huff, Fay Leslie
Humphrey, William Francis
Irwin, James Newton
Kennedy, James
Kulp, Charles Joseph
McConnaughey, Ralph Otis
McCulla, Roy
McIntosh, Walter Scott
McKibbin, George Paul
McVay, Homer Reese
Magruder, George Raymond
Maresh, Reginald
Moss, William George
Munger, Milo William
Nies, George Henry
Pelton, Henry Clark
Rawhouser, Charles David
Shontz, Robert Ivan
Starbuck, William Ray
Story, William Henry
Taylor, Edwin Scott
Thompson, Earl G.
Tinker, Francis Enos
Vos, John
Watros, Ray Alfonso
Westenhaver, Earl H.
Wiler, Wesley David
Woodruff, Iyman Wallace
Wyant, Arthur C.

DEGREES CONFERRED FEBRUARY 22, 1905

Miller, Catherine Marguerite, Rugh, Frederick Walter

GRADUATE STUDENT IN DENTISTRY

Vos, John — Iowa
D. D. S., 1904

THIRD YEAR

Adams, Waldo Johnson	Oregon
Adams, William Claude	Oregon
Arnold, John Rubi	Iowa
Black, Amy Thornton	Iowa
Brown, Mark D.	South Dakota
Christie, Bert Lee	Iowa
Crawford, Guy	Iowa
Creighton, D. Murto	Iowa
DeMots, Henry	Iowa
Greenawalt, Richard Albert	Iowa
Heykens, Herman	Iowa
Hurst, Thomas Henry	Iowa
Jeffers, Lyle Lawson	Iowa
Leach, Don Sherman	Iowa
McCord, Alexander Ichabod	Iowa
†Miller, Catherine Marguerite	South Dakota
Miller, Thomas Jefferson	Iowa
Molsberry, Frank Roland	Iowa
Myler, Melvin Wesley	Iowa
Polley, Lovette Morse	Iowa
†Rugh, Fred Walter	Iowa
Seydel, Robert Ashable	Iowa
Stryker, Clarence Andrew	Iowa
Vail, Glenn Winfred	Iowa
Whitsell, Loyd Lane	Iowa

SECOND YEAR

Damon, Robert Enoch	Iowa
Davis, Elmer Richard	Iowa
Farlien, Jacob Anderson	Iowa
Frank, Arthur Jacob	Iowa
Gibbs, Harry Emmons	Iowa
Horel, Charles Sidney	Iowa
Humeston, Fred Lee	Iowa
Hunsicker, Claude Linvill	Iowa
Knapp, Karl Wilson	Iowa

†Graduated Feb. 26, 1905.

Lahman, Rush Clark	Iowa
Lister, Clarence Sylvester	Iowa
Moravec, Arthur John	Iowa
Payne, Charles Burton	Iowa
Roosevelt, Theodore Tasheira, Jr.	Iowa
Schultz, Emery Jesse	Iowa
Schwin, Frederick William	Iowa
Scovel, John William	Iowa
Settell, Ansel Reuben	Iowa
**Thomas, Cleveland Langrange	Iowa
VanDoren, Orie Elmer	Iowa
**Ward, Jesse	Illinois
*Wright, Charles Thomas	Iowa

FIRST YEAR

Bettice, Daniel	Iowa
Black, Guy Cameron	Pennsylvania
*Bridges, John Morris	Iowa
Carl, Cecil Earl	Iowa
Check, Frank James, Jr.	Iowa
**Crosby, Lucius	Iowa
Davis, Walter Clarence	Iowa
Doely, Owen Eugene	Minnesota
Downs, George Almond	Iowa
*Drees, Lambert John	Iowa
Duncan, Harley Dale	Iowa
Farnsworth, Frank Wilkinson	Iowa
*Ferguson, Josiah Arthur	Iowa
Graham, George Dudley	Iowa
Greene, Emmett Amos	Iowa
*Haselton, Harve Barden	Iowa
Heit, Charles Lee	Illinois
Ph. G., 1903, Highland Park College	
Hemingway, John Dexter	Iowa
Hillweg, Charles Ulysses	Iowa
Holmquist, David Elven	Iowa
***Horner, Louis Hurst	Iowa
*Jenkel, Paul Frederick	Iowa

*Not in attendance.
**Transferred from another college.
***Irregular.

Joynt, Robert James	Iowa
Klaffenbach, Arthur Otto	Iowa
Lee, Herbert Wayne	Illinois
Leech, Chester Raymond	Iowa
Lockard, Adelbert	Iowa
McElderry, Chester Arthur	Iowa
*McKeon, George Leo	Massachusetts
McLeod, Earl Angus	Iowa
McMartin, Kenneth	Iowa
Meyers, Johannes Henry	Iowa
Miller, Glen Ward	Iowa
Moravec, Edward L.	Iowa
Mueller, Carl William	Illinois
Neil, Fred A.	Iowa
Nye, Walter Sewell	Iowa
Percy, Roe Ernest	Iowa
Porter, Van Alex	Iowa
Robertson, Clarence Walker	Iowa
Rosendahl, Peter Oscar	Minnesota
Saville, Burr George	Iowa
Shouse, Arthur Chester	South Dakota
Stealy, Elza Rollin	South Dakota
B. Ped., 1903, Colorado State Normal School	
Stouffer, Clyde Homer	Iowa
B. A., 1904, Western College	
Swartzendruber, Joe Ray	Iowa
Towne, Ray Salem	Iowa
Vane, Lumir Frank	Iowa
Ward, Griffy Golding	Iowa
Washburn, Roy Booth	Wisconsin
Weir, Charles Richard	Iowa
Wells, Ira Heydon	Iowa
Wilkinson, Charles William	Iowa
Wilson, James Matthew	Iowa
Ph. G., 1899, Highland Park College	
Wood, Harry T.	Iowa
Ziegler, Winfield Scott	Iowa

UNCLASSIFIED

Harrington, Charles Alvin	Iowa
Ott, LeRoy Theodore	Iowa

DENTAL ASSISTANT'S COURSE.

Kennedy, C. Lillian	Iowa

SUMMARY

Graduate student	1
Third year	25
Second year	22
First year	56
Unclassified	2
Dental Assistants' Course	1
Total	107

THE COLLEGE OF PHARMACY

DEGREES CONFERRED JUNE, 1904.

Benn, Arthur Braeton
Coffman, Walter Thomas
Corlett, Clara Marie
Dunn, Mrs. Minnie
Farley, John Aloysius
Fritzel, Clinton George
Heide, Charlotte Andria
Henderson, Lauren
Newell, James Stewart
Novak, Joseph Henry
Porter, Erl Watt
Rose, Edward Spangler
Selby, Ernest Standley
Whetstone, Robert Reed
Whiting, Nathan Dudley

GRADUATE STUDENT IN PHARMACY.

Reynolds, Mrs. Lillie E. — Brayton

Ph. G., 1897.

SECOND YEAR.

Allen, Earl	Unionville
Friedholdt, George Louis	Davenport
Humphrey, Rollin Edward	Carroll
Manley, Bernard Edward	Sloan
Moore, Herbert Morse	Iowa City
Seymour, Edith Maria	Iowa City

B. S., 1899.

Siebke, Henry	Durant
Workman, Ellsworth	Clarence

FIRST YEAR.

Arent, Arthur	Iowa
Barta, Frank Albert	Iowa
Cochran, Ray Clark	Iowa
Conway, Frank Henry	Iowa
Dickson, Millard Ray	Iowa
Dolan, Thomas William	Iowa
Douglass, Arthur	Iowa

Fitzgibbons, Joseph E.	Iowa
Heinrich, George Arthur	Iowa
Johnson, Arthur	Iowa
Kenyon, Ross	Iowa
Kiehl, Glenn E.	Iowa
McMillen, Hubert	Iowa
Morrison, Clee Lane	Montana
Narum, Carl	Iowa
Proctor, Warren Joseph	Iowa
Schadt, Fred Conrad	Iowa
Sylvester, Ralph Waldo	Iowa
Warnecke, Fred Jackob	Iowa

UNCLASSIFIED.

Brady, Joseph Thomas	Iowa
David, Voyle V.	Montana
Judd, Howard Garfield	Iowa
Machacek, Joseph Frank	Iowa
Magennis, Joseph Leonard	Iowa
Martin, Roy Kingman	Iowa
Swenson, Henry Rudolph	Iowa
Swords, Lloyd William	Iowa
Weaver, George Edwin	Iowa
Wilson, Lizzie	Iowa

SUMMARY.

Graduate Student	1
Second Year	8
First Year	19
Unclassified	10
Total	38

SUMMARY OF REGISTRATION

THE SUMMER SESSION, 1904

	MEN	WOMEN	TOTAL
Graduate College	34	36	70
College of Liberal Arts	49	80	129
College of Medicine	..	1	1
Library Training School	..	26	26
Total	83	143	226

THE GRADUATE COLLEGE

Candidates for the degree of Ph. D	20	2	22
Candidates for the degree of M. A	27	20	47
Candidates for the degree of M. S	20	4	24
Candidates for the degree of C. E	1	..	1
Students not candidates for degrees	9	15	24
Total	77	41	118

THE COLLEGE OF LIBERAL ARTS

FOURTH YEAR

Classical	11	13	24
Philosophical	24	37	61
Scientific	12	5	17
Civil Engineering	13	..	13
Total	60	55	115

THIRD YEAR

Classical	8	9	17
Philosophical	23	40	63
Scientific	17	4	21
Civil Engineering	14	..	14
Electrical Engineering	6	..	6
Mining Engineering	1	..	1
Total	69	53	122

SECOND YEAR

Classical	9	8	17
Philosophical	30	38	68
Scientific	21	7	28
Civil Engineering	11	..	11
Electrical Engineering	7	..	7
Mining Engineering	1	..	1
Mechanical Engineering	1	..	1
Total	80	53	133

FIRST YEAR

Classical	7	11	18
Philosophical	33	57	90
Scientific	31	4	35
Civil Engineering	21	..	21
Electrical Engineering	13	..	13
Mining Engineering	2	..	2
Mechanical Engineering	5	..	5
Total	112	72	184
Special Students	17	7	24
Unclassified Students	59	46	105
Professional Students taking elective work	67	1	68
Total in the College of Liberal Arts	464	287	751

THE COLLEGE OF LAW

Third Year	53	..	53
Second Year	55	..	55
First Year	69	..	69
Unclassified	5	..	5
Combined Course	9	1	10
Total	191	1	192

THE COLLEGE OF MEDICINE

Graduate Students	2	..	2
Fourth Year	62	3	65
Third Year	51	2	53
Second Year	56	5	61
First Year	63	..	63
Unclassified	15	..	15
Nurses' Training School	..	18	18
Total	249	28	277

THE COLLEGE OF HOMEOPATHIC MEDICINE

Graduate Students	2	..	2
Fourth Year	9	..	9
Third Year	8	..	8
Second Year	5	..	5
First Year	16	..	16
Nurses' Training School	..	12	12
Total	40	12	52

THE COLLEGE OF DENTISTRY

Graduate Students	1	..	1
Third Year	24	1	25
Second Year	22	..	22
First Year	55	..	55
Unclassified	3	..	3
Dental Assistant's Course	..	1	1
Total	105	2	107

THE COLLEGE OF PHARMACY

Graduate Students	..	1	1
Second Year	7	1	8
First Year	18	1	19
Unclassified	9	1	10
Total	34	4	38
Total including duplicates	1243	518	1761
Duplicates	152	49	201
Total excluding duplicates	1091	469	1560

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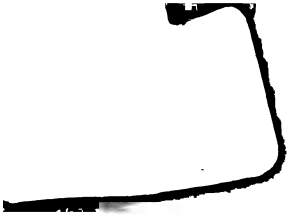

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